



New Vishal
PUBLICATIONS

8th
Edition

Agriculture Current Affairs

2019-20

Includes :

- Highlights of Union Budget & Economic Survey
- Agriculture Current Affairs
- ICAR (Current Updates)
- Important Facts and Tables
- Recent Agricultural Schemes/ Programmes
- MCQs for NABARD, IBPS - SO - AFO (Mains) and other Agriculture competitive exams.



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8th

Edition

December, 2019

Agriculture

Current Affairs

2019-20

Includes Highlights of :

Union Budget 2019-20

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Agriculture Census 2015-16

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- First Ever 'India International Cooperatives Trade Fair (IICTF)' held in New Delhi
- Bank of Baroda launches agri digital platform 'Baroda Kisan'
- Tobacco Board Received 2019 Golden Leaf Award
- T.N. bags Krishi Karman award for the fifth time
- A.P. govt. launched Rythu Bharosa scheme that provides Rs. 13,500 to farmers
- 'Pradhan Mantri Kisan Maan Dhan Yojana' launched
- 'CHC-Farm Machinery' mobile app launched for farmers
- Rs 250-cr Mega Food Park set up in Telangana
- National Animal Disease Control Programme and National Artificial Insemination Programme launched
- World Bank to sanction Rs 3,000 cr for food parks
- TNAU develops Nano Formulations to Protect Shelf Life of Fruits, Vegetables

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- *Kerala Tirur betel leaf, Tamil Nadu's Palani Panchamirtham get GI tag*
- *KAU Invents New Technology to Produce Tree-turmeric Seedlings*
- *Meghdoot : New mobile app launched to assist farmers*
- *Nabventures: A Nabard venture allots 700 crore for rural startups*
- *Govt approves Rs 206.8 cr for Implementation of Agriculture Export Policy scheme*
- *Union Government to launch Uber for tractors app to aid farmers*
- *Cabinet approves Nutrient Based Subsidy (NBS) rates for P&K fertilizers for the year 2019-20*
- *Mukhya Mantri Krishi Aashirwaad Yojana*
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- *Govt approves Rs 206.8 cr for Implementation of Agriculture Export Policy scheme*
- *CCEA approves 'Pradhan Mantri JI-VAN yojana'*
- *K Keshavulu appointed as Vice-President of the International Seed Testing Association*
- *Vice President Released a Compendium on Ongole breed of cattle*
- *Government panel for raising minimum wage to Rs 375*
- *NDDB's CALF recognised as National Reference Lab for dairy products*
- *Govt. released Draft Rules for Better Poultry Farming Practices*
- *PNB has institutionalized two categories of awards*
- *N Kumar, TNAU V-C, conferred with 'Lifetime Recognition Award' by the Confederation of Horticulture Association of India*
- *FSSAI permits small organic growers to sell produce without certification till April, 2020*
- *Japanese Shiitake mushroom to be available in Manipur markets*
- *Govt uses Artificial Intelligence to boost farming*
- *Jaiva Karshaka Samithi Bags International Prize for Innovative Organic Farming*
- *Maharashtra to have new agri product export policy*
- *Golden Temple street gets 'clean food hub' tag*
- *Telangana: Rythu Bandhu financial assistance enhanced to Rs 5000*
- *Kaleshwaram irrigation project inaugurated in Telangana*
- *New Chairman of Agricultural Scientific Recruitment Board*
- *NITI Aayog releases composite water management index*
- *Maharashtra ranks first in NITI Aayog's ease of doing farm business*
- *Pradhan Mantri Kisan Samman Nidhi launched*
- *Arecanut gets its first GI tag for 'Sirsi Supari'*

- *Animal Husbandry Park to come up at Salem*
- *MSP for Raw Jute for 2019-20 season hiked to Rs. 3950/- from Rs. 3700/- per quintal*
- *Cabinet approves launch of Kisan Urja Suraksha evam Utthaan Mahabhiyan*
- *4th Agri Leadership Summit 2019 Held At Sonipat*
- *India's 1st Aqua Mega Food Park Commissioned in Andhra Pradesh*
- *RBI raises limit for collateral-free agri loans to Rs. 1.6 lakh from Rs. 1 lakh*
- *MP launches Rs 50,000 cr farm loan waiver scheme*
- *CCEA approves launch of KUSUM scheme*
- *Goa govt hands control of sole sugar factory to Agri dept*
- *Agricultural Project with FAO*
- *Jaivik India Award*
- *Cabinet approved establishment of Rashtriya Kamdhenu Aayog*
- *Centre approves Rs. 7,214 crore relief package for States affected by natural calamity*
- *Kalia scheme launched*
- *CCEA approves creation of Agri-Market infrastructure fund*
- *The then Union Minister of Agriculture & Farmers Welfare Shri Radha Mohan Singh releases recombinant ELISA kits*
- *Himachal's first mega food park in Una*
- *Free milk scheme launched for anganwadi children*
- *Rice Knowledge Bank launched*
- *Sweet Revolution scheme launched in Jharkhand*
- *India to host 13th Conference of Parties (COP) of the Convention on the Conservation of Migratory Species of Wild Animals (CMS)*
- *National Horticulture Fair 2019*
- *Marayoor jaggery got GI tag*
- *Govt launched Asiatic Lions Conservation Project*
- *Agriculture ministry launched online portal 'Ensure' to connect with direct benefit transfer*
- *President Kovind dedicates ACARE project to people of Myanmar*
- *Assam Government announced 3 Schemes For Farmers*
- *'Soura Jalandhi' scheme launched*
- *'Swachhta' awards*
- *Operation Greens Scheme*
- *IIT-Madras develops portable cold storage device*
- *Union Agriculture Minister releases Model Agriculture Produce and Livestock*

Contract Farming and Services (Promotion & Facilitation) Act, 2018

- *Govt bans 12 pesticides with immediate effect*
- *Kerala govt. launched Gau Samridhi Plus Scheme*
- *Amitabh Bachchan honoured with Sayaji Ratna Award*
- *National Milk Day 2018 : 26 November*
- *Doordarshan Mahila Kisan Awards programme launched*
- *Gujarat's first mega food park inaugurated in Surat*
- *M.S. Swaminathan received 1st World Agriculture Prize*
- *Global Agriculture Leadership Summit 2018 held in New Delhi*
- *"Shahi litchi" got Geographical Indication tag*
- *GI Tag for Alphonso from Konkan*
- *CCEA approved creation of Fisheries and Aquaculture Infrastructure Development Fund (FIDF)*
- *Microsoft India signs pact with NITI Aayog for AI tools in agri, healthcare*
- *National Nutrition Month : September*
- *Cabinet approved New Umbrella Scheme "Pradhan Mantri Annadata Aay Sanrakshana Abhiyan" (PM-AASHA)*
- *Dairy Processing & Infrastructure Development Fund launched*
- *Neem and Black buck declared as state tree and animal of Andhra Pradesh*
- *Indian farmer in UAE sets world record of distributing saplings*
- *Nabard launched Centre for Climate Change in Lucknow*
- *IFFCO launched iMandi App*
- *President declared queen pineapple as Tripura's 'State Fruit'*
- *I-Hariyali app launched by Punjab Govt*
- *India ranks 177 out of 180 in Environmental Performance Index 2018*
- *"Status of Environment Report, India 2015" released*
- *CCEA approves continuation of Umbrella Scheme Green Revolution-Krishonnati Yojana in agriculture sector*
- *Mission to promote famed Lakadong turmeric*
- *NABARD got Adaptation Fund reaccreditation*
- *PM launched National Nutrition Mission, and pan India expansion of Beti Bachao Beti Padhao*
- *HP Governor launched Zero Budget Natural Farming to promote organic farming*
- *Indian Seed Congress – 2019*
- *India ranked 11th on Climate Change Performance Index 2019*
- *Government launched e - RaKAM portal for selling agri produce*

- *PM Modi Inaugurated International Rice Research Centre In Varanasi*
- *Andhra Pradesh Banganapalle mangoes got GI tag*
- *PAU develops country's first Bt cotton varieties*
- *e - pashuhaat portal (www.epashuhaat.gov.in) launched*
- *The first ever All India Institute of Ayurveda dedicated to the Nation*
- *PM Modi launched e-NAM - the e-trading platform for National Agriculture Market*
- *Sikkim becomes India's first organic state*
- *Other Major Schemes/Programmes/Missions of GoI on Agriculture Sector*

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- *World Cotton Day 7 October 2019*
- *Global Report on Food Crisis 2019*
- *7 June: 1st World Food Safety Day observed*
- *World Pulses Day-2019*
- *Organics and Millets International Trade Fair 2019 held in Bengaluru*
- *2 Feb: World Wetlands Day*
- *Sugarcane juice declared 'national drink' of Pakistan*
- *FAO approves 2023 as International Year of Millets*
- *United Nations Climate Change Conference 2018*
- *Rattan Lal honoured with Glinka World Soil Prize 2018*
- *World Soil Day : 5 December 2018*
- *Changsha Declaration on Global South-South Cooperation in Agriculture*
- *World Food Day 2019 : 16 October*
- *World Coconut Day 2019 : 2 September*
- *World Water Day : 22 March, 2019*
- *First SAARC Agri Cooperative Business Forum held in Kathmandu, Nepal*
- *11th Global Forum for Food & Agriculture held in Berlin*
- *Rice Field laboratory in Manila named after PM Modi*
- *World Sustainable Development Summit 2019 held in New Delhi*
- *International Day of Rural Women : 15 October*
- *World Meteorological Day 23 March 2019*
- *International Years by UN*
- *UN declares 2020 International Year of Plant Health*

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- *International Day of Forests 2019 : 21 March*
- *International Day for Biological Diversity : 22 May 2019*
- *Earth Day : 22 April*
- *2019 : World Food Prize*
- *2018 : World Food Prize*
- *IUFoST – World Congress 2018 held in India*
- *World Milk Day 2019*
- *World Environment Day 2019*

6. ICAR (Current Updates) 141 - 156

- *ICAR develops 2 new chickpeas varieties*
- *'Kashi Lalima' : new variety of ladyfinger developed*
- *IIHR develops 2 processable tomato hybrids*
- *Wheat Variety HD 3226 released*
- *Two Groundnut Varieties with 80% Oleic Acid Content*
- *Social Start-up - Madhu Shakti Project launched*
- *ICAR-NEH Quality Analysis Laboratory inaugurated at Imphal, Manipur*
- *Krishi Kumbh-2019 organized*
- *ICAR-CIFT bags Outstanding ICAR Institution Award*
- *PUSA Krishi Vigyan Mela - 2019 was held from 5th to 7th March - 2019*
- *ICAR Republic Day Tableau Kisan Gandhi bags First Prize*
- *14th Agricultural Science Congress - 2019*
- *ICAR launched National Agricultural Higher Education Project (NAHEP)*
- *Newly Released Varieties of PUSA, 2018-19*
- *ICAR has approved registration of record 15 new breeds of livestock and poultry in 2018*
- *CSWRI comes up with new sheep insemination technique*
- *President of India Dedicates Advanced Centre for Agricultural Research and Education established by ICAR-IARI to the People of Myanmar*
- *ICAR bagged prestigious BGRI Gene stewardship Award*
- *World Bank and ICAR launched the National Agricultural Higher Education Project (NAHEP)*
- *India's first cloned Assamese buffalo born*
- *PUSA ARHAR-16 developed by ICAR-IARI*
- *New Varieties developed*
- *Four new and improved crossbred varieties of pigs released*

- *College of Veterinary Sciences & Animal Husbandry of Central Agricultural University (CAU) in Nagaland inaugurated*
- *New ICAR Awards*
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useful for NABARD Grade A Exam.,
IBPS - AFO, Agriculture Officer,
Agriculture Supervisor and
other Agriculture competitive exams.

Important Organizations / Institutes

ICAR (Indian Council of Agricultural Research)

- **Headquarters** New Delhi
- **Established** 16 July 1929
- **President** Shri Narendra Singh Tomar
- **Director General (ICAR)** Dr. Trilochan Mohapatra
- The Indian Council of Agricultural Research (ICAR) is an autonomous organisation under the Department of Agricultural Research and Education (DARE), Ministry of Agriculture and Farmers Welfare, Government of India.
- Formerly known as Imperial Council of Agricultural Research, it was established on 16 July 1929 as a registered society under the Societies Registration Act, 1860 in pursuance of the report of the Royal Commission on Agriculture.
- The Council is the apex body for co-ordinating, guiding and managing research and education in agriculture including horticulture, fisheries and animal sciences in the entire country.
- It was reorganized twice, in 1965 and 1973.
- The Union Minister of Agriculture is the President of the ICAR.
- The Principal Executive Officer of the ICAR is the Director-General, who is also the Secretary to the Government of India in the Department of Agricultural Research and Education.



- Initiation of the first All-India Co-ordinated Research Project on Maize in 1957
- Status of Deemed University accorded to IARI in 1958
- Establishment of the first State Agricultural University on land grant pattern at Pantnagar in 1960
- Placement of different agricultural research institutes under the purview of ICAR in 1966
- Creation of Department of Agricultural Research and Education (DARE) in the Ministry of Agriculture in 1973
- Opening of first Krishi Vigyan Kendra (KVK) at Puducherry (Pondicherry) in 1974
- Establishment of Agricultural Research Service and Agricultural Scientists' Recruitment Board in 1975
- Launching of Lab-to-Land Programme and the National Agricultural Research Project (NARP) in 1979
- Initiation of Institution-Village Linkage Programme (IVLP) in 1995
- Establishment of National Gene Bank at New Delhi in 1996
- The ICAR was bestowed with the King Baudouin Award in 1989 for its valuable contribution in ushering in the Green Revolution. Again awarded King Baudouin Award in 2004 for research and development efforts made under partnership in Rice Wheat Consortium.
- Launching of National Agricultural Technology Project (NATP) in 1998 and National Agricultural Innovation Project (NAIP) in 2005

- **Formation** **1 April 1905**
Location **Pusa, Delhi**
Director (Additional Charge) : Dr. A.K. Singh
- Indian Agricultural Research Institute (IARI), popularly known as Pusa Institute, began its journey in 1905 at Pusa (Bihar) with the generous grant of 30,000 pounds from an American philanthropist, Mr. Henry Phipps.
- The institute was then known as Agricultural Research Institute (ARI) which functioned with five departments, namely Agriculture,

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Cattle Breeding, Chemistry, Economic Botany and Mycology. Bacteriology unit was added in 1907.

- The name of ARI was changed to Imperial Institute of Agricultural Research in 1911 and, in 1919 it was renamed as Imperial Agricultural Research Institute.
- Following a devastating earth quake on 15th January 1934, the institute was shifted to Delhi on 29th July 1936.
- Post independence, the institute has been renamed as Indian Agricultural Research Institute (IARI).
- **It attained the status of a Deemed University in the year 1958.**
- Currently, the Institute has 20 divisions 5 multi-disciplinary Centres situated in Delhi, 8 regional stations, 2 off-season nurseries, 3 All India coordinated research projects with headquarters at IARI and 10 national Centres functioning under the all India coordinated research projects.

NABARD (National Bank for Agriculture and Rural Development)

Headquarters	Mumbai, Maharashtra
Established	12 July 1982
Chairman	Dr. Harsh Kumar Bhanwala

- NABARD was established on the recommendations of B.Sivaraman Committee, (by Act 61, 1981 of Parliament) on 12 July 1982 by transferring the agricultural credit functions of RBI and refinance functions of the then Agricultural Refinance and Development Corporation (ARDC).
- It was dedicated to the service of the nation by the late Prime Minister Smt. Indira Gandhi on 05 November 1982.
- Set up with an initial capital of Rs.100 crore, its' paid up capital stood at Rs. 10,580 crore as on 31 March 2018.



- NABARD's initiatives are aimed at building an empowered and financially inclusive rural India through specific goal oriented departments which can be categorized broadly into three heads: Financial, Developmental and Supervision.
- The Government of India encourages farmers in taking up projects in select areas by subsidizing a portion of the total project cost. All these projects aim at enhancing capital investment, sustained income flow and employment areas of national importance.

NABARD has been a channel partner of the Government in some of these schemes. Subsidy as and when received from the concerned Ministry is passed onto the financing banks.

APEDA (Agricultural and Processed Food Products Export Development Authority)

Headquarters **New Delhi**

Regional Offices **Mumbai, Kolkata, Bangalore, Hyderabad and Guwahati**

Chairman **Shri Paban K. Borthakur**

- The Agricultural and Processed Food Products Export Development Authority (APEDA) was established by the Government of India under the Agricultural and Processed Food Products Export Development Authority Act passed by the Parliament in December, 1985.
- The Authority replaced the Processed Food Export Promotion Council (PFEPCC).
- APEDA is mandated with the responsibility of export promotion and development of the following scheduled products:
 - o Fruits, Vegetables and their Products.
 - o Meat and Meat Products.



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- o Poultry and Poultry Products.
- o Dairy Products.
- o Confectionery, Biscuits and Bakery Products.
- o Honey, Jaggery and Sugar Products.
- o Cocoa and its products, chocolates of all kinds.
- o Alcoholic and Non-Alcoholic Beverages.
- o Cereal and Cereal Products.
- o Groundnuts, Peanuts and Walnuts.
- o Pickles, Papads and Chutneys.
- o Guar Gum.
- o Floriculture and Floriculture Products.
- o Herbal and Medicinal Plants.
- In addition to this, APEDA has been entrusted with the responsibility to monitor import of sugar.
- APEDA is administered by the Ministry of Commerce, Government of India.
- The **Agriexchange** portal of the Agricultural and Processed Food Products Export Development Authority (APEDA) is an online tool developed to provide all relevant information on Indian agricultural products to international buyers and market intelligence. In addition, the portal serves as a universal meeting place for exporters and importers online. Exporters can receive offers and trade enquiries online, and importers can make demands and specific queries.
- **National Programme for Organic Production (NPOP)** : The Government of India has implemented the National Programme for Organic Production (NPOP). The national programme involves the accreditation programme for Certification Bodies, standards for organic production, promotion of organic farming etc.
- As per the available statistics, **India's rank in terms of World's Organic Agricultural land was 9th and in terms of total number of producers was 1st** as per 2018 data (Source: FIBL & IFOAM Year Book 2018).



***Current Head/Chairman/Director General
of Important Organizations/Institutes/
Boards (As on 13 November 2019)***

<i>Organization/Inst./Board</i>	<i>Head</i>	<i>Date of establishment</i>
Minister of Agriculture & Farmers Welfare	Shri Narendra Singh Tomar	-
Ministers of State for Agriculture & Farmers Welfare	Parsottam Rupala, Kailash Choudhary	
Minister for Consumer Affairs, Food and Public Distribution	Ram Vilas Paswan	-
Minister of Chemicals & Fertilizers	D. V. Sadananda Gowda	-
ICAR	Narendra Singh Tomar (President) Dr. Trilochan Mohapatra (Director General)	16 July 1929 New Delhi
IARI	Dr. A. K. Singh (Director- -Additional charge)	1 April 1905
ASRB (Chairman)	Prof. (Dr.) A.K. Misra	1 Nov. 1973 New Delhi
NABARD	Harsh Kumar Bhanwala (Chairperson)	12 July 1982 Mumbai
MANAGE	Smt. G. Jayalakshmi (Director General)	1987 Hyderabad
APEDA	Paban K. Borthakur (Chairman)	13 Feb., 1986
NAFED	Dr. Bijender Singh (Chairman)	2 Oct., 1958
FCI (Food Corporation of India)	D. V. Prasad (CMD)	1965

NAARM (National Academy of Agricultural Research Management)	Dr. Ch. Srinivasa Rao (Director)	1976
NDRI	Dr. R.R.B. Singh (Director)	1923
KRIBHCO	Dr. Chandra Pal Singh (Chairman)	1980
ICAR-CIWA (Central Institute for Women in Agriculture)	Dr. S.K.Srivastava (Acting Director)	April 1996 Bhubaneswar
CACP (Commission for Agricultural Costs & Prices)	Prof. Vijay Paul Sharma (Chairman)	January 1965 New Delhi
Coconut Development Board	G. Jayalakshmi (Chairman)	12 Jan 1981, Kochi
Tea Board	Arun Kumar Ray (Chairman)	1 April, 1954 Kolkata
Coffee Board	M.S. Boje Gowda (Chairman)	1942 Bangalore
Rubber Board	Dr. Sawar Dhanania (Chairman)	1947 Kottayam
Central Silk Board	K.M.Hanumantharayappa (Chairman)	1948 Bangalore
CCI (Competition Commission of India)	Ashok Kumar Gupta (Chairperson)	14 Oct., 2003 New Delhi
RBI (Reserve Bank of India)	Shri Shaktikanta Das (Governor)	April 1, 1935 Mumbai
NITI Aayog	Shri Narendra Modi (Chairperson) Dr. Rajiv Kumar (Vice Chairperson) Amitabh Kant (Chief Executive Officer)	1 Jan., 2015 New Delhi

INTERNATIONAL AGENCIES

A. CGIAR Institutions :

The Consultative Group on International Agriculture (CGIAR) is an association of 46 countries including India, international and regional organizations, and private foundations devoted to improve global food production. It was established in 1971 and is now located in Washington, D.C. The CGIAR supports a network of 16 IARC's distributed throughout the World. The World Bank, the UNDP and the FAO are co-sponsors of this network. The 16 IARCs are indicated below.

1. International Rice Research Institute (1960) – IRRI : Manila (Philippines)
2. Centro Internatinoal de Majoromiento de Maiz Y Trigo – CIMMYT (International Centre for the Improvement of Maize and Wheat): Mexico
3. Centro Internacional de law Papa – CIP (International Potato Centre) : Lima (Peru)
4. West Africa Rice Development Association, WARDA : Bouake (Cote d'Ivoire)
5. International Plant Genetic Resources Institute, IPGRI : Rome (Italy)
6. International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) : Patancheru, Telangana (India)
7. International Centre for Agricultural Research in the Dry Areas (ICARDA) : Aleppo (Syria)
8. Centro Internacional de Agricultura Tropical – (International Centre for Tropical Agriculture, CIAT) : Cali (Columbia)
9. International Institute for Tropical Agriculture (IITA) : Ibadan (Nigeria)
10. World Agro-forestry Centre (WAC) : Nairobi (Kenya)
11. Centre for International Forestry Research – (CIFOR) : Bogor (Indonesia)

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12. International Irrigation Management Institute – IIMI : Colombo (Sri Lanka)
13. International Livestock Research Institute (ILRI) : Nairobi (Kenya)
14. International Centre for Living Aquatic Resource Management (ICLARM) : Manila (Philippines)
15. International Food Policy Research Institute (IFPRI) : Washington, D.C. (U.S.A.)
16. International Service for National Agricultural Research (ISNAR) : The Hague (Netherland)

B. Non - CGIAR Institutions :

1. Asian Vegetable Research and Development Centre (AVRDC) : Shashua (Taiwan)
2. International Board for Soil Research and Management (IBSRAM) : Bangkok (Thailand)
3. International Centre of Insect Physiology and Ecology (ICIPE) : Nairobi (Kenya)
4. International Centre for Integrated Mountain Development (ICIMD) : Kathmandu (Nepal)
5. South East Asian Regional Centre for Graduate Study and Research in Agriculture (SEARCGA) : Los Banos (Philippines)

FAO (Food and Agriculture Organization)

The Food and Agriculture Organization of the United Nations is an agency of the United Nations that leads international efforts to defeat hunger.

Formation	16 October 1945, in Quebec City, Canada
Headquarters	Rome, Italy
Director General	Qu Dongyu (China)
Parent organization	UN Economic and Social Council

Highlights of **Budget 2019-20**



The Union Minister for Finance and Corporate Affairs **Smt. Nirmala Sitharaman** made her maiden Budget Speech on 05 July 2019 and presented the Union Budget 2019-20 before the Parliament.

The key highlights of Union Budget 2019 are as follows:

10-point Vision for the decade

- Building Team India with Jan Bhagidari: Minimum Government Maximum Governance.
- Achieving green Mother Earth and Blue Skies through a pollution-free India.
- Making Digital India reach every sector of the economy.
- Launching Gaganyaan, Chandrayan, other Space and Satellite programmes.
- Building physical and social infrastructure.
- Water, water management, clean rivers.
- Blue Economy.
- Self-sufficiency and export of food-grains, pulses, oilseeds, fruits and vegetables.
- Achieving a healthy society via Ayushman Bharat, well-nourished women & children, safety of citizens.
- Emphasis on MSMEs, Start-ups, defence manufacturing, automobiles, electronics, fabs and batteries, and medical devices under Make in India.

Towards a 5 Trillion Dollar Economy

- “People’s hearts filled with Aasha (Hope), Vishwas (Trust), Aakash (Aspirations)”, says FM.
- Indian economy to become a 3 trillion dollar economy in the current year.

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- Government aspires to make India a 5 trillion dollar economy.
- "India Inc. are India's job-creators and nation's wealth-creators", says FM.
- Need for investment in:
 - o Infrastructure.
 - o Digital economy.
 - o Job creation in small and medium firms.
- Initiatives to be proposed for kick-starting the virtuous cycle of investments.
- Common man's life changed through MUDRA loans for ease of doing business.

Measures related to MSMEs:

- o **Pradhan Mantri Karam Yogi Maandhan Scheme**
- Pension benefits to about three crore retail traders & small shopkeepers with annual turnover less than Rs. 1.5 crore.
- Enrolment to be kept simple, requiring only Aadhaar, bank account and a self-declaration.
 - o Rs. 350 crore allocated for FY 2019-20 for 2% interest subvention (on fresh or incremental loans) to all GST-registered MSMEs, under the Interest Subvention Scheme for MSMEs.
 - o Payment platform for MSMEs to be created to enable filing of bills and payment thereof, to eliminate delays in government payments.
- India's first indigenously developed payment ecosystem for transport, based on National Common Mobility Card (NCMC) standards, launched in March 2019.
- Inter-operable transport card runs on RuPay card and would allow the holders to pay for bus travel, toll taxes, parking charges, retail shopping.
- Massive push given to all forms of physical connectivity through:
 - o Pradhan Mantri Gram Sadak Yojana.
 - o Industrial Corridors, Dedicated Freight Corridors.
 - o Bhartamala and Sagarmala projects, Jal Marg Vikas and UDAN

Schemes.

- State road networks to be developed in second phase of Bharatmala project.
- Navigational capacity of Ganga to be enhanced via multi modal terminals at Sahibganj and Haldia and a navigational lock at Farakka by 2019-20, under Jal Marg Vikas Project.
- Four times increase in next four years estimated in the cargo volume on Ganga, leading to cheaper freight and passenger movement and reducing the import bill.
- Rs. 50 lakh crore investment needed in Railway Infrastructure during 2018-2030.
- Public-Private-Partnership proposed for development and completion of tracks, rolling stock manufacturing and delivery of passenger freight services.
- 657 kilometers of Metro Rail network has become operational across the country.
- Policy interventions to be made for the development of Maintenance, Repair and Overhaul (MRO), to achieve self-reliance in aviation segment.
- Regulatory roadmap for making India a hub for aircraft financing and leasing activities from Indian shores, to be laid by the Government.
- Outlay of Rs. 10,000 crore for 3 years approved for Phase-II of FAME Scheme.
- Upfront incentive proposed on purchase and charging infrastructure, to encourage faster adoption of Electric Vehicles.
- Only advanced-battery-operated and registered e-vehicles to be incentivized under FAME Scheme.
- National Highway Programme to be restructured to ensure a National Highway Grid, using a financeable model.
- Power at affordable rates to states ensured under 'One Nation, One Grid'.
- Blueprints to be made available for gas grids, water grids, i-ways, and regional airports.
- High Level Empowered Committee (HLEC) recommendations to

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be implemented:

- o Retirement of old & inefficient plants.
- o Addressing low utilization of gas plant capacity due to paucity of Natural Gas.
- Cross subsidy surcharges, undesirable duties on open access sales or captive generation for industrial and other bulk power consumers to be removed under Ujjwal DISCOM Assurance Yojana (UDAY).
- Package of power sector tariff and structural reforms to be announced soon.
- Reform measures to be taken up to promote rental housing.
- Model Tenancy Law to be finalized and circulated to the states.
- Joint development and concession mechanisms to be used for public infrastructure and affordable housing on land parcels held by the Central Government and CPSEs.

Measures to enhance the sources of capital for infrastructure financing:

- Credit Guarantee Enhancement Corporation to be set up in 2019-2020.
- Action plan to be put in place to deepen the market for long term bonds with focus on infrastructure.
- Proposed transfer/sale of investments by FIIs/FPIs (in debt securities issued by IDF-NBFCs) to any domestic investor within the specified lock-in period.

Measures to deepen bond markets:

- Stock exchanges to be enabled to allow AA rated bonds as collaterals.
- User-friendliness of trading platforms for corporate bonds to be reviewed.

Social stock exchange:

- o Electronic fund raising platform under the regulatory ambit of SEBI.
- o Listing social enterprises and voluntary organizations.
- o To raise capital as equity, debt or as units like a mutual fund.

- SEBI to consider raising the threshold for minimum public shareholding in the listed companies from 25% to 35%.
- Know Your Customer (KYC) norms for Foreign Portfolio Investors to be made more investor friendly.
- Government to supplement efforts by RBI to get retail investors to invest in government treasury bills and securities, with further institutional development using stock exchanges.

Measures to make India a more attractive FDI destination:

- o FDI in sectors like aviation, media (animation, AVGC) and insurance sectors can be opened further after multi-stakeholder examination.
- o Insurance Intermediaries to get 100% FDI.
- o Local sourcing norms to be eased for FDI in Single Brand Retail sector.
- Government to organize an annual Global Investors Meet in India, using National Infrastructure Investment Fund (NIIF) as an anchor to get all three sets of global players (pension, insurance and sovereign wealth funds).
- Statutory limit for FPI investment in a company is proposed to be increased from 24% to sectoral foreign investment limit. Option to be given to the concerned corporate to limit it to a lower threshold.
- FPIs to be permitted to subscribe to listed debt securities issued by REITs and InvITs.
- NRI-Portfolio Investment Scheme Route is proposed to be merged with the Foreign Portfolio Investment Route.
- Cumulative resources garnered through new financial instruments like Infrastructure Investment Trusts (InvITs), Real Estate Investment Trusts (REITs) as well as models like Toll-Operate-Transfer (ToT) exceed Rs. 24,000 crore.
- **New Space India Limited (NSIL)**, a PSE, incorporated as a new commercial arm of Department of Space.
- To tap the benefits of the Research & Development carried out by ISRO like commercialization of products like launch vehicles, transfer to technologies and marketing of space products.

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Direct Taxes

- Tax rate reduced to 25% for companies with annual turnover up to Rs. 400 crore
- Surcharge increased on individuals having taxable income from Rs. 2 crore to Rs. 5 crore and Rs. 5 crore and above.
- India's Ease of Doing Business ranking under the category of 'paying taxes' jumped from 172 in 2017 to 121 in the 2019.
- Direct tax revenue increased by over 78% in past 5 years to Rs. 11.37 lakh crore
- Tax Simplification and Ease of living - making compliance easier by leveraging technology:
- **Interchangeability of PAN and Aadhaar**
 - o Those who don't have PAN can file tax returns using Aadhaar.
 - o Aadhaar can be used wherever PAN is required.
- **Pre-filing of Income-tax Returns for faster, more accurate tax returns**
 - o Pre-filled tax returns with details of several incomes and deductions to be made available.
 - o Information to be collected from Banks, Stock exchanges, mutual funds etc.
- **Faceless e-assessment**
 - o Faceless e-assessment with no human interface to be launched.
 - o To be carried out initially in cases requiring verification of certain specified transactions or discrepancies.

Affordable housing

- Additional deduction up to Rs. 1.5 lakhs for interest paid on loans borrowed up to 31st March, 2020 for purchase of house valued up to Rs. 45 lakh.
- Overall benefit of around Rs. 7 lakh over loan period of 15 years.

Boost to Electric Vehicles

- Additional income tax deduction of Rs. 1.5 lakh on interest paid on electric vehicle loans.
- Customs duty exempted on certain parts of electric vehicles.

Other Direct Tax measures

- Simplification of tax laws to reduce genuine hardships of taxpayers:
 - o Higher tax threshold for launching prosecution for non-filing of returns
 - o Appropriate class of persons exempted from the anti-abuse provisions of Section 50CA and Section 56 of the Income Tax Act.

Relief for Start-ups

- Capital gains exemptions from sale of residential house for investment in start-ups extended till FY21.
- 'Angel tax' issue resolved- start-ups and investors filing requisite declarations and providing information in their returns not to be subjected to any kind of scrutiny in respect of valuations of share premiums.
- Funds raised by start-ups to not require scrutiny from Income Tax Department
 - o E-verification mechanism for establishing identity of the investor and source of funds.
- Special administrative arrangements for pending assessments and grievance redressal
 - o No inquiry in such cases by the Assessing Officer without obtaining approval of the supervisory officer.
- No scrutiny of valuation of shares issued to Category-II Alternative Investment Funds.
- Relaxation of conditions for carry forward and set off of losses.

NBFCs

- Interest on certain bad or doubtful debts by deposit taking as well as systemically important non-deposit taking NBFCs to be taxed in the year in which interest is actually received.

International Financial Services Centre (IFSC)

- Direct tax incentives proposed for an IFSC:
 - o 100 % profit-linked deduction in any ten-year block within a fifteen-year period.
 - o Exemption from dividend distribution tax from current and

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accumulated income to companies and mutual funds.

- o Exemptions on capital gain to Category-III Alternative Investment Funds (AIFs).
- o Exemption to interest payment on loan taken from non-residents.

Securities Transaction Tax (STT)

- STT restricted only to the difference between settlement and strike price in case of exercise of options.

Indirect Taxes

Make In India

- Basic Customs Duty increased on cashew kernels, PVC, tiles, auto parts, marble slabs, optical fibre cable, CCTV camera etc.
- Exemptions from Custom Duty on certain electronic items now manufactured in India withdrawn.
- End use based exemptions on palm stearin, fatty oils withdrawn.
- Exemptions to various kinds of papers withdrawn.
- 5% Basic Custom Duty imposed on imported books.
- Customs duty reduced on certain raw materials such as:
 - o Inputs for artificial kidney and disposable sterilised dialyser and fuels for nuclear power plants etc.
 - o Capital goods required for manufacture of specified electronic goods.

Defence

- Defence equipment not manufactured in India exempted from basic customs duty

Other Indirect Tax provisions

- Export duty rationalised on raw and semi-finished leather
- Increase in Special Additional Excise Duty and Road and Infrastructure Cess each by Rs. 1 per litre on petrol and diesel
- Custom duty on gold and other precious metals increased
- Legacy Dispute Resolution Scheme for quick closure of pending litigations in Central Excise and Service tax from pre-GST regime

Grameen Bharat / Rural India

- Ujjwala Yojana and Saubhagya Yojana have transformed the lives

of every rural family, dramatically improving ease of their living.

- Electricity and clean cooking facility to all willing rural families by 2022.
- Pradhan Mantri Awas Yojana – Gramin (PMAY-G) aims to achieve "Housing for All" by 2022:
 - o Eligible beneficiaries to be provided 1.95 crore houses with amenities like toilets, electricity and LPG connections during its second phase (2019-20 to 2021-22).
- **Pradhan Mantri Matsya Sampada Yojana (PMMSY)**
 - o A robust fisheries management framework through PMMSY to be established by the Department of Fisheries.
 - o To address critical gaps in the value chain including infrastructure, modernization, traceability, production, productivity, post-harvest management, and quality control.
- **Pradhan Mantri Gram Sadak Yojana (PMGSY)**
 - o Target of connecting the eligible and feasible habitations advanced from 2022 to 2019 with 97% of such habitations already being provided with all weather connectivity.
 - o 30,000 kilometers of PMGSY roads have been built using Green Technology, Waste Plastic and Cold Mix Technology, thereby reducing carbon footprint.
 - o 1,25,000 kilometers of road length to be upgraded over the next five years under PMGSY III with an estimated cost of Rs. 80,250 crore.
- **Scheme of Fund for Upgradation and Regeneration of Traditional Industries' (SFURTI)**
 - o Common Facility Centres (CFCs) to be setup to facilitate cluster based development for making traditional industries more productive, profitable and capable for generating sustained employment opportunities.
 - o 100 new clusters to be setup during 2019-20 with special focus on Bamboo, Honey and Khadi, enabling 50,000 artisans to join the economic value chain.
- **Scheme for Promotion of Innovation, Rural Industry and Entrepreneurship' (ASPIRE)** consolidated.

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- 80 Livelihood Business Incubators (LBIs) and 20 Technology Business Incubators (TBIs) to be setup in 2019-20.
- 75,000 entrepreneurs to be skilled in agro-rural industry sectors.
- Private entrepreneurship to be supported in driving value-addition to farmers' produce from the field and for those from allied activities.
- Dairying through cooperatives to be encouraged by creating infrastructure for cattle feed manufacturing, milk procurement, processing & marketing.
- 10,000 new Farmer Producer Organizations to be formed, to ensure economies of scale for farmers.
- Government to work with State Governments to allow farmers to benefit from e-NAM.
- Zero Budget Farming in which few states' farmers are already being trained to be replicated in other states.
- **India's water security**
 - New Jal Shakti Mantralaya to look at the management of our water resources and water supply in an integrated and holistic manner
 - Jal Jeevan Mission to achieve Har Ghar Jal (piped water supply) to all rural households by 2024
 - To focus on integrated demand and supply side management of water at the local level.
 - Convergence with other Central and State Government Schemes to achieve its objectives.
 - 1592 critical and over exploited Blocks spread across 256 District being identified for the Jal Shakti Abhiyan.
 - Compensatory Afforestation Fund Management and Planning Authority (CAMPA) fund can be used for this purpose.
- **Swachh Bharat Abhiyan**
 - 9.6 crore toilets constructed since Oct 2, 2014.
 - More than 5.6 lakh villages have become Open Defecation Free (ODF).

- o Swachh Bharat Mission to be expanded to undertake sustainable solid waste management in every village.

Pradhan Mantri Gramin Digital Saksharta Abhiyan,

- o Over two crore rural Indians made digitally literate.
- o Internet connectivity in local bodies in every Panchayat under Bharat-Net to bridge rural-urban divide.
- o Universal Obligation Fund under a PPP arrangement to be utilized for speeding up Bharat-Net.

Shahree Bharat/Urban India

- **Pradhan Mantri Awas Yojana – Urban (PMAY-Urban)-**
 - o Over 81 lakh houses with an investment of about Rs. 4.83 lakh crore sanctioned of which construction started in about 47 lakh houses.
 - o Over 26 lakh houses completed of which nearly 24 lakh houses delivered to the beneficiaries.
 - o Over 13 lakh houses so far constructed using new technologies.
- **More than 95% of cities also declared Open Defecation Free (ODF).**
- Almost 1 crore citizens have downloaded Swachhata App.
- Target of achieving Gandhiji's resolve of Swachh Bharat to make India ODF by 2nd October 2019.
 - o To mark this occasion, the **Rashtriya Swachhta Kendra** to be inaugurated at Gandhi Darshan, Rajghat on 2nd October, 2019.
 - o **Gandhipedia** being developed by National Council for Science Museums to sensitize youth and society about positive Gandhian values.
- Railways to be encouraged to invest more in suburban railways through SPV structures like Rapid Regional Transport System (RRTS) proposed on the Delhi-Meerut route.
- Proposal to enhance the metro-railway initiatives by:
 - o Encouraging more PPP initiatives.
 - o Ensuring completion of sanctioned works.
 - o Supporting transit oriented development (TOD) to ensure

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commercial activity around transit hubs.

Youth

- New National Education Policy to be brought which proposes
 - o Major changes in both school and higher education
 - o Better Governance systems
 - o Greater focus on research and innovation.
- **National Research Foundation (NRF) proposed**
 - o To fund, coordinate and promote research in the country.
 - o To assimilate independent research grants given by various Ministries.
 - o To strengthen overall research eco-system in the country
 - o This would be adequately supplemented with additional funds.
- Rs. 400 crore provided for “World Class Institutions”, for FY 2019-20, more than three times the revised estimates for the previous year.
- ‘Study in India’ proposed to bring foreign students to study in Indian higher educational institutions.
- Regulatory systems of higher education to be reformed comprehensively:
 - o To promote greater autonomy.
 - o To focus on better academic outcomes.
- Draft legislation to set up Higher Education Commission of India (HECI), to be presented.
- Khelo India Scheme to be expanded with all necessary financial support.
- National Sports Education Board for development of sportspersons to be set up under Khelo India, to popularize sports at all levels
- To prepare youth for overseas jobs, focus to be increased on globally valued skill-sets including language training, AI, IoT, Big Data, 3D Printing, Virtual Reality and Robotics.
- Set of four labour codes proposed, to streamline multiple labour laws to standardize and streamline registration and filing of returns.

- A television program proposed exclusively for and by start-ups, within the DD bouquet of channels.
- Stand-Up India Scheme to be continued for the period of 2020-25. The Banks to provide financial assistance for demand based businesses.

Ease of Living

- About 30 lakh workers joined the Pradhan Mantri Shram Yogi Maandhan Scheme that provides Rs. 3,000 per month as pension on attaining the age of 60 to workers in unorganized and informal sectors.
- Approximately 35 crore LED bulbs distributed under UJALA Yojana leading to cost saving of Rs. 18,341 crore annually.
- Solar stoves and battery chargers to be promoted using the approach of LED bulbs mission.
- A massive program of railway station modernization to be launched.

Naari Tu Narayani/Women

- Approach shift from women-centric-policy making to women-led initiatives and movements.
- A Committee proposed with Government and private stakeholders for moving forward on Gender budgeting.
- SHG:
 - o Women SHG interest subvention program proposed to be expanded to all districts.
 - o Overdraft of Rs. 5,000 to be allowed for every verified women SHG member having a Jan Dhan Bank Account.
 - o One woman per SHG to be eligible for a loan up to Rs. 1 lakh under MUDRA Scheme.

India's Soft Power

- Proposal to consider issuing Aadhaar Card for NRIs with Indian Passports on their arrival without waiting for 180 days.
- Mission to integrate traditional artisans with global markets proposed, with necessary patents and geographical indicators.
- 18 new Indian diplomatic Missions in Africa approved in March,

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2018, out of which 5 already opened. Another 4 new Embassies intended in 2019-20.

- Revamp of Indian Development Assistance Scheme (IDEAS) proposed.
- 17 iconic Tourism Sites being developed into model world class tourist destinations.
- Present digital repository aimed at preserving rich tribal cultural heritage, to be strengthened.

Banking and Financial Sector

- NPAs of commercial banks reduced by over Rs. 1 lakh crore over the last year.
- Record recovery of over Rs. 4 lakh crore effected over the last four years.
- Provision coverage ratio at its highest in seven years.
- Domestic credit growth increased to 13.8%.
- Measures related to PSBs:
 - o Rs. 70,000 crore proposed to be provided to PSBs to boost credit.
 - o PSBs to leverage technology, offering online personal loans and doorstep banking, and enabling customers of one PSBs to access services across all PSBs.
 - o Steps to be initiated to empower accountholders to have control over deposit of cash by others in their accounts.
 - o Reforms to be undertaken to strengthen governance in PSBs.
- **Measures related to NBFCs:**
 - o Proposals for strengthening the regulatory authority of RBI over NBFCs to be placed in the Finance Bill.
 - o Requirement of creating a Debenture Redemption Reserve will be done away with to allow NBFCs to raise funds in public issues.
 - o Steps to allow all NBFCs to directly participate on the TReDS platform.
- Return of regulatory authority from NHB to RBI proposed, over the housing finance sector.

- Rs. 100 lakh crore investment in infrastructure intended over the next five years. Committee proposed to recommend the structure and required flow of funds through development finance institutions.
- Steps to be taken to separate the NPS Trust from PFRDA.
- Reduction in Net Owned Fund requirement from Rs. 5,000 crore to Rs. 1,000 crore proposed:
 - o To facilitate on-shoring of international insurance transactions.
 - o To enable opening of branches by foreign reinsurers in the International Financial Services Centre.
- **Measures related to CPSEs:**
 - o Target of Rs. 1, 05,000 crore of disinvestment receipts set for the FY 2019-20.
 - o Government to reinitiate the process of strategic disinvestment of Air India, and to offer more CPSEs for strategic participation by the private sector.
 - o Government to undertake strategic sale of PSUs and continue to consolidate PSUs in the non-financial space.
 - o Government to consider going to an appropriate level below 51% in PSUs where the government control is still to be retained, on case to case basis.
 - o Present policy of retaining 51% Government stake to be modified to retaining 51% stake inclusive of the stake of Government controlled institutions.
 - o Retail participation in CPSEs to be encouraged.
 - o To provide additional investment space:
- Government to realign its holding in CPSEs
- Banks to permit greater availability of its shares and to improve depth of its market.
 - o Government to offer an investment option in ETFs on the lines of Equity Linked Savings Scheme (ELSS).
 - o Government to meet public shareholding norms of 25% for all listed PSUs and raise the foreign shareholding limits to maximum permissible sector limits for all PSU companies

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which are part of Emerging Market Index.

- Government to raise a part of its gross borrowing program in external markets in external currencies. This will also have beneficial impact on demand situation for the government securities in domestic market.
- New series of coins of One Rupee, Two Rupees, Five Rupees, Ten Rupees and Twenty Rupees, easily identifiable to the visually impaired to be made available for public use shortly.

Digital Payments

- TDS of 2% on cash withdrawal exceeding Rs. 1 crore in a year from a bank account
- Business establishments with annual turnover more than Rs. 50 crore shall offer low cost digital modes of payment to their customers and no charges or Merchant Discount Rate shall be imposed on customers as well as merchants.

Mega Investment in Sunrise and Advanced Technology Areas

- Scheme to invite global companies to set up mega-manufacturing plants in areas such as Semi-conductor Fabrication (FAB), Solar Photo Voltaic cells, Lithium storage batteries, Computer Servers, Laptops, etc
- Investment linked income tax exemptions to be provided along with indirect tax benefits.

Source : pib.gov.in

Highlights of **Economic Survey 2018-19** **(Agriculture and Food Management)**

Finance Minister Nirmala Sitharaman tabled her first Economic Survey on 4 July 2019. It is prepared by the new Chief Economic Adviser Krishnamurthy Subramanian.

The theme of the Economic Survey 2019 is about enabling a "shifting of gears" to sustained economic growth for objective of \$5 trillion by 2024-25.

Economic Survey 2019 highlights:

- **To achieve the PM Narendra Modi's vision of \$5 trillion economy, India needs to shift its gears to sustain a real GDP growth rate of 8%, says Economic Survey 2019**
- **Economic Survey predicts 7% growth rate for this fiscal**
 - Investment the "key driver" of simultaneous growth in demand, jobs, exports & productivity
 - Govt proposes to increase retirement age
 - Data should be "of the people, by the people, for the people", says govt
 - Govt proposes complete overhaul of minimum wages in India
 - Dwarfs (firms with less than 100 workers) despite being more than 10 years old, account for more than 50% of all organized firms in manufacturing by number. Contribution of dwarfs to employment is only 14% and to productivity is a mere 8%.
 - To achieve the PM Narendra Modi's vision of \$5 trillion economy by 2024, India needs to shift its gears to accelerate and sustain a real GDP growth rate of 8%, says Economic Survey
 - Using insights from behavioral economics to create an aspirational agenda for social change:
- From 'Beti Baco Beti Padhao' to 'BADLAV' (Beti Aapki Dhan Lakshmi Aur Vijay Lakshmi).

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- From 'Swachh Bharat' to 'Sundar Bharat'.
- From 'Give it up' for the LPG subsidy to 'Think about the Subsidy'.
- From 'Tax evasion' to 'Tax compliance'.
- Behavioral economics provides insights to 'nudge' people towards desirable behavior.

Key principles of behavioral economics:

Emphasizing the beneficial social norm.

Changing the default option.

Repeated reinforcements.

- Private investment- key driver for demand, capacity, labor productivity, new technology, creative destruction and job creation.
- Swachh Bharat mission: 93.1% of the households have access to toilets. 96.5% of those with access to toilets are using them in rural India.
- India still the fastest growing major economy in 2018-19. Growth of GDP moderated to 6.8 per cent in 2018-19 from 7.2 per cent in 2017-18.
- Accommodative RBI policy will help to cut real lending rates.
- Political stability should push animal spirits of economy
- January-March economic slowdown due to poll related activity.
- NBFC sector stress reason for FY19 slowdown.
- Oil prices seen declining in FY20.
- Declining in NPA should push up capex cycle
- Government policies expected to further lift restrictions on FDI inflows.
- 2019-20 GDP growth seen picking up on higher private investment and robust consumption.
- Lower global growth, increased uncertainty over trade tension may hit exports.
- Investment rate picking up in FY2020 on higher credit growth and improved demand.
- Economic Survey provisionally estimates 2.9% growth rate for the agriculture, forestry and fishing sector.

- Survey predicts that working-age population will grow by about 97 lakhs per year in the upcoming decade.

Agriculture and Food Management

- Gross Value Added (GVA) in agriculture improved from a negative 0.2 per cent in 2014-15 to 6.3 per cent in 2016-17 but decelerated to 2.9 per cent in 2018-19.
- Gross Capital Formation (GCF) in agriculture as percentage of GVA marginally declined to 15.2 per cent in 2017-18 as compared to 15.6 per cent in 2016-17.
- The public sector GCF in agriculture as a percentage of GVA increased to 2.7 per cent in 2016-17 from 2.1 per cent in 2013-14.
- Women's participation in agriculture increased to 13.9 per cent in 2015-16 from 11.7 per cent in 2005-06 and their concentration is highest (28 per cent) among small and marginal farmers.
- A shift is seen in the number of operational land holdings and area operated by operational land holdings towards small and marginal farmers.
- In India, according to the Asian Water Development Outlook, 2016, almost 89 per cent of groundwater extracted is for irrigation. Hence, focus should shift from land productivity to 'irrigation water productivity'. Thrust should be on micro-irrigation to improve water use efficiency.
- The main aim of Zero Budget Natural Farming (ZBNF) is elimination of chemical pesticides and promotion of good agronomic practices. ZBNF also aims to sustain agriculture production with eco-friendly processes in tune with nature to produce agricultural produce free of chemicals. Soil fertility & soil organic matter is restored by pursuing ZBNF. Less water is required under ZBNF and it is a climate friendly agriculture system.
- Organic farming is also being promoted through the scheme Mission Organic Value Chain Development for North Eastern Region (MOVCDNER) under National Mission for Sustainable Agriculture (NMSA).

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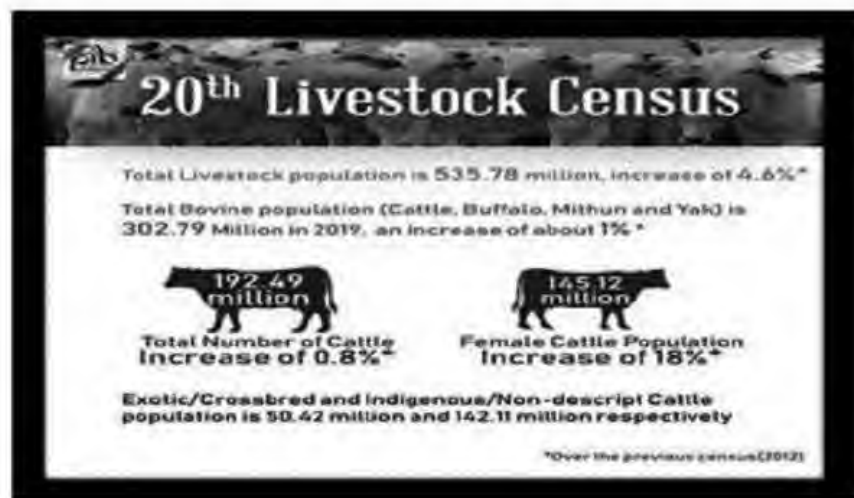
- Adopting appropriate technologies through Custom Hiring Centers and implementation of ICT are critical to improve resource-use efficiency among small and marginal farmers.
- India ranks first in milk production, accounting for 20 per cent of world production.
- The All India per capita availability of milk is 375 grams per day, it varies between 71 grams per day in Assam to 1120 grams per day in Punjab.
- Livestock rearing particularly of small ruminants.
- Fisheries sector, as India is the second largest producer.



Current Affairs

(Agriculture Development in India)

- **Department of Animal Husbandry & Dairying releases 20th Livestock Census**
- Department of Animal Husbandry & Dairying, Ministry of Fisheries, Animal Husbandry and Dairying has released the 20th Livestock Census report on 16 Oct 2019.



The following are the key results of the 20th Livestock Census:

- The **total Livestock population** is **535.78 million** in the country showing an increase of 4.6% over Livestock Census-2012
- There are 4.85 crore desi (native) milch cows in the country, less than 1% higher than the 4.81 crore population in the last census in 2012.
- **Total Bovine population** (Cattle, Buffalo, Mithun and Yak) is

302.79 Million in 2019 which shows an increase of about 1% over the previous census.

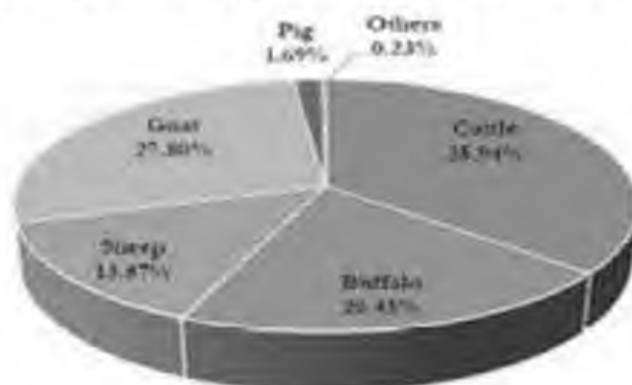
- The **total number of cattle** in the country in 2019 is **192.49 million** showing an increase of 0.8 % over previous Census.
- The Female Cattle (Cows population) is 145.12 million, increased by 18.0% over the previous census (2012).
- The Exotic/Crossbred and Indigenous/Non-descript Cattle population in the country is 50.42 million and 142.11 million respectively.
- The Indigenous/Non-descript female cattle population has increased by 10% in 2019 as compared to previous census.
- The population of the total Exotic/Crossbred Cattle has increased by 26.9 % in 2019 as compared to previous census.
- There is a decline of 6 % in the total Indigenous/ Non-descript cattle population over the previous census. However, the pace of decline of Indigenous/ Non-descript cattle population during 2012-2019 is much lesser than as compared to the 2007-12 which was about 9%.
- The **total buffaloes** in the country is **109.85 million** showing an increase of about 1.0% over previous Census.
- The **total milch animals** (in-milk and dry) in cows and buffaloes is **125.34 million**, an increase of 6.0 % over the previous census.
- The **total sheep** in the country is **74.26 million** in 2019, increased by 14.1% over previous Census.
- The **Goat population** in the country in 2019 is **148.88 million** showing an increase of 10.1% over the previous census.
- The total Pigs in the country is 9.06 Million in the current Census, declined by 12.03% over the previous Census.
- The other livestock including mithun, yak, horses, ponies, mule, donkeys, camel together contribute around 0.23% of the total livestock and their total count is 1.24 million.
- The total poultry in the country is 851.81 million in 2019, registered an increase of 16.8% in the total poultry.
- The total birds in the backyard poultry in the country is 317.07 million. The backyard poultry has increased by around 46% as

compared to previous Census.

- The total Commercial Poultry in the country is 534.74 million in 2019, increased by 4.5% over previous Census.

Distribution of Livestock Population

Graph 1: Livestock Population 2019 - Share of Major Species



- In 20th Livestock Census, 35.94%-Cattle, 27.80%-Goat, 20.45%-Buffaloes, 13.87%-Sheep, 1.69%-Pigs.
- Mithun, Yaks, Horses, Ponies, Mules, Donkeys and Camels taken together contribute 0.23% of the total livestock.
- As compare to previous census the percentage share of sheep and goat population has increased whereas the percentage share of cattle, buffalo and pig has marginally declined.

Livestock Population - Major Species

Category	Population (In million) 2012	Population (In million) 2019	% growth
Cattle	190.90	192.49	0.83
Buffalo	108.70	109.85	1.06
Sheep	65.07	74.26	14.13

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Category	Population (In million) 2012	Population (In million) 2019	% growth
Goat	135.17	148.88	10.14
Pig	10.29	9.06	-12.03
Mithun	0.30	0.38	26.66
Yak	0.08	0.06	-25.00
Horses & Ponies	0.63	0.34	-45.58
Mule	0.20	0.08	-57.09
Donkey	0.32	0.12	-61.23
Camel	0.40	0.25	-37.05
Total Livestock	512.06	535.78	4.63

Livestock Population, 2019 (Leading states)

S.No.	State	Population (in million) 2019
1	Uttar Pradesh	67.8
2	Rajasthan	56.8
3	Madhya Pradesh	40.6
4	West Bengal	37.4
5	Bihar	36.5
6	Andhra Pradesh	34.0
7	Maharashtra	33.0
8	Telangana	32.6
9	Karnataka	29.0
10	Gujarat	26.9

- The Livestock Census has been conducted in the country periodically since 1919-20. The Livestock Census covers all domesticated animals and its headcounts. So far 19 such censuses have been conducted in participation with State Governments and UT Administrations. The 20th Livestock Census was conducted in participation with all States and Union Territories. The enumeration was done both in rural and urban areas. Various

species of animals (Cattle, Buffalo, Mithun, Yak, Sheep, Goat, Pig, Horse, Pony, Mule, Donkey Camel, Dog, Rabbit and Elephant)/poultry birds (Fowl, Duck, Emu, Turkeys, Quail and other poultry birds) possessed by the households, household enterprises/non-household enterprises and institutions have been counted at their site.

- The major thrust given to 20th Livestock Census is the collection of data through tablets computers. For the first time such a major initiative has been taken to digitise household level data through online transmission from the field. National Informatics Centre (NIC) has developed a mobile Application software and was used for data collection as well as online transmission of data from the field to the NIC server.

➤ ***Punjab govt announces Rs 2,500 per acre compensation for farmers not burning stubble***

- The Punjab government on 13 November 2019 announced Rs 2,500 per acre as compensation to small and marginal farmers who did not burn crop residue.
- Stubble burning in Punjab and Haryana is a cause of air pollution in Delhi and governments of both states are taking several steps to check the practice.
- To seek the compensation, farmers have to submit a self-declaration proforma with the panchayat concerned by November 30 for claiming compensation.

➤ ***First Ever 'India International Cooperatives Trade Fair (IICTF)' held in New Delhi***



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- The first ever 'India International Cooperatives Trade Fair' held in New Delhi from 11-13 October 2019.
 - The Trade Fair is aimed at promoting cooperative to cooperative trade within India and abroad leading to enhanced rural and farm prosperity. The fair will be packed with conferences, exhibitions, B2B meetings, C2C meetings, sales promotion, marketing and products display business, networking, policy advocacy etc., providing an immense opportunity to the participants to collaborate and explore business opportunities with the Cooperative Organisations from India and abroad.
-

➤ *Bank of Baroda launches agri digital platform 'Baroda Kisan'*

- Bank of Baroda launched its agri digital platform "Baroda Kisan" on 21 Sept. 2019.
 - The platform can also be accessed on mobiles by farmers.
 - The app would help farmers by providing vital information to help them make the right decisions right from sowing to harvest.
-

➤ *Tobacco Board Received 2019 Golden Leaf Award*

- Tobacco Board of India has been awarded the Golden Leaf Award in the Most Impressive Public Service Initiative category for the year 2019, for its efforts to initiate various sustainability (green) initiatives in Flue-Cured Virginia (FCV) tobacco cultivation in India.
- The awards under this category are given to a company or institution that introduced a public service programme or educational campaign of creativity, effectiveness to date and best use of resources. Awards are granted on an annual basis to companies that have achieved outstanding performance in five categories - most impressive public service initiative, most promising new product introduction, most exciting newcomer to the industry, most outstanding service to the industry and the BMJ most committed to quality award.

- The Golden Leaf Awards were created to recognize professional excellence and dedication in the tobacco industry by Tobacco Reporter, an international magazine in the year 2006.
-

➤ ***T.N. bags Krishi Karman award for the fifth time***

- Tamil Nadu has bagged the Krishi Karman Award for its performance in agricultural production.
 - This time, the award has been given for **oilseeds production**.
 - In 2017-18, the State produced 10.382 lakh tonnes of oilseeds with a productivity 2,729 kg per hectare.
 - The State was chosen for its performance in food grain production for 2011-12 and 2015-16; pulses for 2013-14 and coarse cereals production for 2014-15.
-

➤ ***A.P. govt. launched Rythu Bharosa scheme that provides Rs. 13,500 to farmers***

- AP CM Y.S. Jagan Mohan Reddy on 15 October 2019 launched the YSR Rythu Bharosa-PM Kisan scheme, which provides a cash incentive for farm inputs, in Sarvepalli in Nellore district.
- The YSR Rythu Bharosa replaces the previous TDP government's 'Annadata Sukhibhava' scheme, introduced in February 2019.
- Under Rythu Bharosa, land holder farmers owning up to 5 acres will be provided with an annual benefit of Rs 13,500.

What the scheme entails

- Landless cultivators or tenant farmers from SC, ST, BC and minority groups are also eligible for the incentive. The amount includes the annual benefit of Rs 6,000 per family provided by the Centre under the PM KISAN Yojana.
- Input assistance of Rs. 7,500 would be provided to each farmer before start of the kharif season, another Rs. 4,000 at the time of harvesting and just before the start of the rabi season, and the last instalment of Rs. 2,000 at the time of the farmers' festival of Sankranti.

➤ ***'Pradhan Mantri Kisan Maan Dhan Yojana' launched***



- Prime Minister Narendra Modi on 12 September 2019 launched an ambitious pension scheme for farmers from Ranchi.
- The scheme has an outlay of Rs 10,774 crore for the next three years.

Salient features

1. It is voluntary and contributory scheme for farmers in the entry age group of 18 to 40 years and a monthly pension of Rs. 3000/- will be provided to them on attaining the age of 60 years.
2. The farmers will have to make a monthly contribution of Rs.55 to Rs.200, depending on their age of entry, in the Pension Fund till they reach the retirement date i.e. the age of 60 years.
3. The monthly contributions will fall due on the same day every month as enrolment date. The beneficiaries may also chose an option to pay their contributionson quarterly, 4-monthly or half-yearly basis. Such contributions will fall due on the same day of such period as the date of enrollment
4. The spouse is also eligible to get a separate pension of Rs.3000/- upon making separate contributions to the Fund.
5. The Life Insurance Corporation of India (LIC) shall be the Pension Fund Manager and responsible for Pension pay out.

6. In case of death of the farmer before retirement date, the spouse may continue in the scheme by paying the remaining contributions till the remaining age of the deceased farmer. If the spouse does not wish to continue, the total contribution made by the farmer along with interest will be paid to the spouse. If there is no spouse, then total contribution along with interest will be paid to the nominee.
7. If the farmer dies after the retirement date, the spouse will receive 50% of the pension i.e. Rs.1500 per month as Family Pension. After the death of both the farmer and the spouse, the accumulated corpus shall be credited back to the Pension Fund.
8. The beneficiaries may opt voluntarily to exit the Scheme after a minimum period of 5 years of regular contributions. On exit, their entire contribution shall be returned by LIC with an interest equivalent to prevailing saving bank rates.
9. The farmers, who are also beneficiaries of PM-Kisan Scheme, will have the option to allow their contribution debited from the benefit of that Scheme directly.
10. In case of default in making regular contributions, the beneficiaries are allowed to regularize the contributions by paying the outstanding dues along with prescribed interest. Until 1 month from first unpaid contribution, no late fee would be charged. Three payment cycles demand would be raised for payment of contribution without any interest.

➤ ***'CHC-Farm Machinery' mobile app launched for farmers***



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- Union Minister for Agriculture and Farmers Welfare Narendra Singh Tomar launched 'CHC Farm Machinery' mobile App in New Delhi. The Multi-lingual Mobile App CHC Farm Machinery is for farmers to hire tractors and other farm machineries.

About 'CHC Farm Machinery' App

- The mobile application connects farmers with Custom Hiring Service Centres in their nearby vicinity. The app can be downloaded on any android phone from Google Play Store.
 - Through this app the farmers can now select and order the required machinery at rates feasible for them from Custom Hiring Centers (CHC) located in radius of 50 Kms. Thus farmers, primarily small and marginal farmers, will have easy access to high value and technical agricultural equipments and this will further facilitate optimum use of all types of inputs using these farming machines.
 - The app is already available to custom service providers for registration and uploading with geo-reference photographs of agricultural machinery custom service centers as well as photographs of machinery available in it.
 - As of now over 40,000 custom hiring service centers have registered on this mobile app for the purpose of renting more than 1,20,000 agricultural machineries & equipments.
 - Benefits: Using the app will take mechanization to maximum farm holdings in a short time frame and will also increase the income of the farmers.
-

➤ *Rs 250-cr Mega Food Park set up in Telangana*

- Union Minister for Food processing Harsimrat Kaur Badal inaugurated the first Mega Food Park in Telangana promoted by Smart Agro Food Park at Lakkampally village in Nizamabad district.
- The Mega Food Park will leverage an additional investment of about Rs. 250 crore in 22 food processing units and generate a turnover of about Rs. 14,000 crore.
- It will also provide 50,000 direct and indirect jobs and benefit about one lakh farmers.

➤ ***National Animal Disease Control Programme and National Artificial Insemination Programme launched***

- Prime Minister Narendra Modi launched the **National Animal Disease Control Programme (NACDP)** to control and eradicate the Foot & Mouth Disease (FMD) and Brucellosis amongst the livestock in the country, at Mathura on 11 Sept 2019.
- The 12,652 Crore fully Central Government sponsored programme will vaccinate over 600 million cattle in the country in an effort to mitigate the two diseases.
- The Prime Minister also launched the National Artificial Insemination Programme and a country wide workshop in all the Krishi Vigyan Kendras (KVKs) in all the 687 Districts of the country on vaccination and disease management, Artificial Insemination and Productivity.

National Animal Disease Control Programme

- The National Animal Disease Control Programme also aims to provide vaccination to about 36 million female bovine calves annually in its fight against the Brucellosis disease.

The Programme has two main objectives-

1. To control the diseases by 2025
 2. To eradicate the diseases by 2030
- The programme will be receiving 100 percent funding from the Union Government.

➤ ***World Bank to sanction Rs 3,000 cr for food parks***

- Union Minister of State for Food Processing Industries Rameswar Teli has said, the World Bank will provide Rs 3,000 crore funds to finance mini and mega food parks across the country, particularly in Northeast.
- This will help boost farmers' income.

➤ ***TNAU develops Nano Formulations to Protect Shelf Life of Fruits, Vegetables***

- Tamil Nadu Agricultural University (TNAU) has developed two Nano Formulations to help protect yield and enable farmers get better price.
- Two nano formulations – **Fruity Fresh and Nano Sticker and Nano Pellets** – out of the seven products that are in different stages of testing are expected to hit the agro market soon.
- The 'Fruity fresh' and 'Nano Stickers and Nano Pellets' would increase the shelf life of fruits and vegetables and protect them against post-harvest diseases.
- The 'Fruity fresh', when sprayed 15 - 30 days before harvest, helped growers retain fruits and vegetables for six to 12 days compared to those fruits and vegetables that were not sprayed. Likewise, dipping mango post-harvest in a 'Fruity fresh' formulation extended the shelf life by a similar period under ambient storage condition and for 10 - 15 days under cold storage condition.

➤ ***Kerala Tirur betel leaf, Tamil Nadu's Palani Panchamirtham get GI tag***

- Palani Panchamirtham, a temple 'prasadam' from Tamil Nadu, Kerala's Tirur betel leaf and two other products have been awarded Geographical Indication (GI) tag.
- The two other products that received the tag include Tawlhlohpuan and Mizo Puanchei from Mizoram.
- Palani Panchamirtham, a prasadam which is a main offering in the Abisegam of Lord Dhandayuthapani Swamy, the presiding deity of Arulmigu Dhandayuthapaniswamy Temple, situated in Palani Hills. It is a combination of five natural substances - banana, jaggery, cow ghee, honey and cardamom in a definite proportion. It is prepared in a natural method without addition of any preservatives or artificial ingredients and is well known for its religious fervour and gaiety.

- **Tawlhlohpuan**, a medium to heavy, compactly woven, good quality fabric from Mizoram is known for warp yarns, warping, weaving and intricate designs that are made by hand. Tawlhloh, in Mizo language, means 'to stand firm or not to move backward'.
 - **Mizo Puanchei**, a colourful Mizo shawl/textile is considered as the most colourful among the Mizo textiles. It is an essential possession for every Mizo lady and an important marriage outfit in the state. It is also the most commonly used costume in Mizo festive dances and official ceremonies.
 - **Tirur betel vine** from Kerala, which is mainly cultivated in Tirur, Tanur, Tirurangadi, Kuttippuram, Malappuram and Vengara block panchayaths of Malappuram district, is valued both for its mild stimulant action and medicinal properties. Even though it is commonly used for making pan masala for chewing, it has many medicinal, industrial and cultural usages and is considered as a remedy for bad breath and digestive disorders.
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➤ ***KAU Invents New Technology to Produce Tree-turmeric Seedlings***

- Kerala Agricultural University (KAU) has invented a germination technology to produce seedlings of *maramanjil* (tree turmeric), a medicinal plant.
- During the process, a large number of year-old polybag seedlings of the plant have been made ready for cultivation. The plant which is also known as *daruharidra* in Sanskrit and *daruhadi* in Hindi, the root and stem of 'tree turmeric' has excellent antibiotic and antiseptic properties.
- Tree turmeric, which belongs to Menispermaceae family and botanically known as *Coscinium fenestratum*, is a native and quite familiar in the natural evergreen forests of South India. It required highlands with relatively high humidity and shade for its ideal growth. Its root and stem are widely used in various Ayurvedic, Unani, Sidha. It's also used as traditional medicinal preparations for the treatment of diabetes, skin diseases, jaundice, wounds, and ulcers. Even, its stem worked as a relief to treat snake bites.

➤ ***Meghdoot : New mobile app launched to assist farmers***

- The Ministries of Earth Sciences and Agriculture have launched a mobile application 'MEGHDOOT' that will provide location, and crop and livestock-specific weather-based agro advisories to farmers in local languages.
 - It has been developed by experts from the India Meteorological Department and Indian Institute of Tropical meteorology and the Indian Council of Agricultural Research. The app has been named Meghdoot and can be downloaded from Google Play Store and App Store. The users will have to register their name and location so that they can get area specific information.
 - It will provide forecast relating to temperature, rainfall, humidity, and wind speed and direction, which play critical roles in agricultural operations and advisories to the farmers on how to take care of their crops and livestock.
-

➤ ***Nabventures: A Nabard venture allots 700 crore for rural startups***

- The National Bank for Agriculture and Rural Development (NABARD) announced a Rs 700-crore venture capital fund for equity investments in agriculture and rural-focused startups.
- NABARD has been contributing to other funds till now and this is the first time that the rural development bank has launched a fund of its own.
- The fund has been launched by Nabventures, a subsidiary of NABARD, and has a proposed corpus of Rs 500 crore with an option to retain over-subscriptions of Rs 200 crore, called as the greenshoe option.
- NABVENTURES Limited is a 100% subsidiary of National Bank for Agriculture and Rural Development (NABARD). NABVENTURES is the alternative investments arm of NABARD. The Company has received AIF license from SEBI and has launched its first Alternative Investment Fund to support early-

to-mid stage companies in agriculture, food, waste management, rural development etc.

➤ ***Govt approves Rs 206.8 cr for Implementation of Agriculture Export Policy scheme***

- The government has approved an outlay of Rs 206.8 crore for 2019-19 for a central sector scheme titled '**Implementation of Agriculture Export Policy**' aimed at doubling farmers' income by 2022.
 - Of this, Rs 134.50 crore are allocated to setup dedicated clusters for mangoes, pomegranate, bananas, grapes, tea, coffee, turmeric, and marine products, among others along with pre and post-harvest management of the production, upgrading the supply chain to attain much higher levels of export from those clusters.
 - The approved scheme also entails outlay for post-harvest infrastructure in clusters, capacity building, grant towards Public Private Partnership for Integrated Agriculture Development (PPP-IAD) and laboratories
 - The 'Agriculture Export Policy, 2018' seeks to double farm exports to \$60 billion by 2022 from \$30 billion last year, and will invest Rs 1,400 crore to set up specialised clusters in different states for different produce to push exports.
 - The government, in December 2018, approved the policy for agriculture, lifting all restrictions on organic and processed food under which the norms for sensitive farm goods such as onions will be reviewed from time to time.
-

➤ ***Union Government to launch Uber for tractors app to aid farmers***

- The center and agriculture ministry have decided to launch a new revolutionary app 'Uber for tractors' which will help the rural farmers to access cutting-edge technology in an affordable price at their doorsteps.

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- With this new mobile application, farmers can book and hire all the expensive agricultural equipment which is beyond the reach for any average small farmers.
 - The CHC app is already open for registrations by the farmers, societies, and entrepreneurs. So far, almost 26,800 CHCs have registered to offer more than one lakh pieces of equipment for hire. Once the app is officially launched, farmers who want to avail this facility and hire equipment, can register using their names, addresses, and mobile numbers, and then punch in their requirements.
-

➤ Cabinet approves Nutrient Based Subsidy (NBS) rates for P&K fertilizers for the year 2019-20

- The Cabinet Committee on Economic Affairs has approved the proposal of the Department of Fertilizers for fixation of Nutrient Based Subsidy Rates for P&K Fertilizers for the year 2019-20. The approved rates for NBS effective from the date of notification will be as under:

Per Kg Subsidy rates (in Rs.)

N (Nitrogen)	P (Phosphorus)	K (Potash)	S (Sulphur)
18.901	15.216	11.124	3.562

- This will enable the manufacturers and importers to formalize supply contracts for fertilizers and fertilizer inputs and make fertilizers available to the farmers in the year 2019-20.
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➤ Mukhya Mantri Krishi Aashirwaad Yojana

- On 10 August, 2019, Vice President M Venkaiah Naidu launched the Jharkhand Government's Mukhya Mantri Krishi Aashirwaad Yojana.
- The MMKAY scheme aims to ensure welfare and financial support to farmers in Jharkhand.
- The scheme has been incorporated in the state budget in financial year 2019-2020.

- This is the first scheme by the state government that provides 100 percent settlement through Direct Benefit Transfer (DBT) medium.
 - Beneficiary farmers will get a minimum of Rs 5,000 and a maximum of Rs 25,000 per year under this scheme.
 - Over 35 lakh farmers will be benefited by getting the assistance ever year from the government under this scheme.
-

➤ ***Pradhan Mantri Matsya Sampada Yojana announced***

- Central govt. has announced to launch a new scheme named Pradhan Mantri Matsya Sampada Yojana in Union Budget presented on 5 July 2019.
- Under PM Matsya Sampada Scheme, govt. will turn India into a hotspot for fish and aquatic products.
- This would be done through appropriate policy, marketing and infrastructure support.
- This scheme would address critical infrastructure gap in fisheries sector.
- The Union Budget 2019-20 intends to promote aquaculture through PM Kisan Sampada Yojana by ensuring easy access to credit. Moreover, the central govt. also intends to bring all fishermen under the coverage of all farmer welfare programmes and social security schemes with expanded coverage for accident insurance.
- The central govt. has also created a special fund to develop infrastructure related to fishing industry. This fund would be used for creation of fisheries infrastructure facilities both in marine and inland fisheries sectors. The central govt. has targeted to augment fish production to achieve its target of 15 million tonne by FY 2020 would be done under Blue Revolution.
- The govt. would further raise the target to 20 million tonnes by FY 2022-23.

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- The approved scheme also entails outlay for post-harvest infrastructure in clusters, capacity building, grant towards Public Private Partnership for Integrated Agriculture Development & labs.

➤ **CCEA approves 'Pradhan Mantri JI-VAN yojana'**

- The Cabinet Committee on Economic Affairs approved the 'Pradhan Mantri Jaiv Indhan- Vatavaran Anukool fasal awashesh Nivaran (JI-VAN) Yojana' for providing financial support to the Integrated Bioethanol Projects.
- The scheme aims to incentivise 2G Ethanol sector and support the industry by creating a suitable ecosystem for setting up commercial projects and increasing Research & Development in this area.
- The Pradhan Mantri JI-VAN Yojana will be supported with the total financial outlay of Rs 1969.50 crore for the period 2018-19 to 2023-24.
- The Centre for High Technology (CHT), a technical body under the aegis of the Union Ministry of Petroleum and Natural Gas, will be the implementation Agency for the scheme.

Phases under JI-VAN Yojana

- Under the JI-VAN Yojana, 12 Commercial Scale and 10 Demonstration Scale Second Generation (2G) ethanol projects

will be provided with a Viability Gap Funding (VGF) support in two phases. These two phases are:

- a) Phase-I (2018-19 to 2022-23): 6 Commercial projects and 5 demonstration projects will be supported.
 - b) Phase-II (2020-21 to 2023-24): Remaining 6 commercial projects and 5 demonstration projects will be supported.
-

➤ ***K Keshavulu appointed as Vice-President of the International Seed Testing Association***

- K Keshavulu, Director of the Telangana State Seed and Organic Certification Authority (TISSOCA), has been appointed as Vice-President of the International Seed Testing Association.
 - He is tipped to take over as the President of the association's Governing Board in 2022 in New Zealand, which will host the next conference.
 - Keshavulu is the first person from India to hold this position at the seed testing association.
 - **ISTA** : The International Seed Testing Association (ISTA) was founded in 1924 and has more than 100 members worldwide. It is an association of laboratories which are authorised to check on the marketability of seed as defined in various countries' laws.
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➤ ***Vice President Released a Compendium on Ongole breed of cattle***

- The Vice President of India, Shri M. Venkaiah Naidu has lamented the neglect of the indigenous Ongole cattle breed and called for protecting and promoting the animal, which has become popular all over the world.
- He also released a Compendium on Ongole breed of cattle at the Swarna Bharat Trust in Vijayawada.
- Vice President Venkaiah Naidu highlighted that Brazil has imported these cattle breeds and produced hybrid Ongoles to earn huge revenue through export. While in India this cattle is neglected.

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- The 1200-page Compendium traces the history of the animal from 1885 to 2016 by providing information from 13 books and 80 research findings on Ongole Cattle.
-

➤ ***Government panel for raising minimum wage to Rs 375***

- An expert committee set up by the government has recommended setting the minimum wage at Rs 375 a day, higher than the existing rate of Rs 321 for agriculture or unskilled workers and Rs 371 for semi-skilled workers.
 - The committee has come up with a new methodology that does away with the variation in wages based on sector, skills and location. It has proposed a “balanced diet approach” to compute minimum wages.
 - The recommendations, if accepted, will result in a wage bracket ranging from Rs 340 for Bihar and Uttar Pradesh to Rs 447 for Gujarat.
 - The ministry of labour and employment had constituted the committee under the chairmanship of Anoop Satpathy, fellow of the VV Giri National Labour Institute, in January 2017 to review and recommend ways to calculate the national minimum wage. The committee has submitted its report.
-

➤ ***NDDDB's CALF recognised as National Reference Lab for dairy products***

- The Food Safety & Standards Authority of India (FSSAI) has recognised National Dairy Development Board's laboratory, the Centre for Analysis and Learning in Livestock and Food (CALF), as a National Reference Laboratory (NRL) for dairy and dairy products.
- CALF becomes the only NRL in India for Milk and Milk products.
- The FSSAI has accorded NRL status to 13 accredited laboratories across India in specific areas. Eight of them are from the government sector and the remaining five from the private sector.

- The objective of NRL is to create a laboratory network on a par with global food testing and research laboratories, which provide method development, method validation training and proficiency testing.
 - **NDDB** : It was founded by Dr. Verghese Kurien. The National Dairy Development Board (NDDB) was created in 1965, fulfilling the desire of the then prime minister of India – the late Lal Bahadur Shastri to extend the success of the Kaira Cooperative Milk Producers' Union (Amul) to other parts of India.
-

➤ ***Govt. released Draft Rules for Better Poultry Farming Practices***

- The government has declared draft rules for better poultry farming practices. According to which poultry farms in the country may be forced to give a space of **not less than 550 sq cm** and cannot put more than 6-8 birds in a cage.
 - The Ministry of Agriculture on an order given by the Delhi High Court has come out with a set of rules called Prevention of Cruelty to Animals (Egg-laying Hens) Rules, 2019 to ensure better conditions for the birds.
 - As per the notification, the rules are expected to come into force next January, even though existing farms may get time till 2025 to switch over to the new guidelines.
 - The rules prohibit the use of growth-promoters and insist that antibiotics can be used only for therapeutic purposes and under supervision by a veterinarian.
 - The policy also bars feeding hens with the remains of dead chicks, thereby preventing diseases to the hens and also benefiting healthy commercial egg production in the country.
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➤ ***PNB has institutionalized two categories of awards***

- PNB has institutionalized two categories of awards:
- **PNB Punjab Kesari Krishi Ratan Puruskar** for under-graduate students.

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- **PNB Lala Lajpat Rai Krishi Siksha Samman** for post-graduate students.
 - Two students – one under-graduate and one post-graduate student each – across the 6 colleges will form the 12-member cohort of toppers studying agricultural education. These students will be conferred a cash reward of INR 50,000 /- each to encourage them to continue to excel in the Indian agricultural sector.
 - The bank will provide recognition to under-graduate and post-graduate students studying agriculture at the following six agriculture universities in India:
 - Punjab Agricultural University, Ludhiana, Punjab
 - Bihar Agricultural University, Sabour, Bhagalpur, Bihar
 - Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu
 - G.B.Pant University of Agriculture and Technology, Pantnagar, Uttarakhand
 - Sri Karan Narendra Agricultural University, Jobner, Jaipur, Rajasthan
 - Odisha University of Agriculture and Technology
-

➤ ***N Kumar, TNAU V-C, conferred with 'Lifetime Recognition Award' by the Confederation of Horticulture Association of India***

- Lifetime Recognition Award by the Confederation of Horticulture Association of India was given to Professor N. Kumar, Vice-Chancellor of Tamil Nadu Agricultural University on 28 May 2019.
 - The award has been conferred for his outstanding contribution in the field of horticulture and academic leadership focused on human resource development in agriculture at the International Conference on Innovative horticulture at Pantnagar, Uttarakhand.
-

➤ ***FSSAI permits small organic growers to sell produce without certification till April, 2020***

- Food safety regulator FSSAI has permitted small organic producers having annual turnover of over Rs 12 lakh, to sell their produce directly to end-consumers without certification till April, 2020. Such producers, however, will not be able to use 'Jaivik Bharat logo' on their products.
 - The Jaivik Bharat logo is an identity mark to distinguish organic products from non-organic ones.
 - A similar relaxation has been given to 'aggregators' having an annual turnover of Rs. 50 lakh. However, the organic food retail firms have to comply with the certification norm.
 - Under the 2017 organic regulation, sale of organic produce directly to end-consumer has been allowed only with the certification of the National Programme for Organic Production (NPOP) and Participatory Guarantee System (PGS) India.
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➤ ***Japanese Shiitake mushroom to be available in Manipur markets***

- The Japanese wood mushroom, *Lentinula edodes* (Berk) Sing, commonly known as shiitake mushroom, is soon going to be available in the markets of Manipur.
 - A group of Japanese experts have begun imparting training to 10 staff of the Salai Agro Production Pvt Ltd's mushroom unit at Lairenkabi Maning Leikai in Imphal West.
 - The unique mushroom from Japan, which is also popularly known as the **golden oak mushroom**, is grown only in areas with a temperature of -5 degrees Celsius.
 - The shiitake mushroom needs to be cultivated over a period of 100 days inside cold storage under 5 degrees Celsius. Later, the plastic covering the Japanese wood mushroom can be opened and depending on the ripeness of the mushrooms, they can be harvested after a period of around three to 10 days.
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➤ ***Govt uses Artificial Intelligence to boost farming***

- Govt has started using Artificial Intelligence (AI) on pilot basis for estimation of crop cutting and other things under Pradhan

Mantri Fasal Bima Yojana.

- The move is aimed at cutting down the cost of farming while increasing productivity. It is also aimed at ensuring better prices for farmers. The government said this cutting edge technology can be leveraged in providing information and advisory services to farmers which will help in increasing productivity.
 - In February 2016, Prime Minister Modi launched Prime Minister's Crop Insurance Scheme called Pradhan Mantri Fasal Bima Yojana. Under the scheme, comprehensive coverage is provided to farmers against the failure of crops. The scheme covers sowing, germination risks, loss of standing crop, post-harvest loss, localised calamities and an add-on coverage for loss of crop due to attack by wild animals. Several agencies were involved in these pilot projects by using Artificial Intelligence for crop cutting estimation under the PMFBY scheme.
-

➤ ***Jaiva Karshaka Samithi Bags International Prize for Innovative Organic Farming***

- A 25-yr-vintage natural farmers institution, Kerala Jaiva Karshaka Samithi, has received a worldwide reputation for his or her determined efforts in innovating organic farming.
 - The Samithi is one of the winners of the Organic Medal of Honour that changed into started via Xichong, a Chinese Municipality in collaboration with the International Federation of Organic Agriculture Movement (IFOAM) Asia in South Korea.
-

➤ ***Maharashtra to have new agri product export policy***

- The Maharashtra government has appointed a committee under the State Agriculture Commissioner to draft a new agriculture export policy.
- The State already leads in export of grapes, pomegranates and onions and the policy will focus on multiplying export of bananas, vegetables and rice.

- The State government has already planned to develop six clusters to export oranges, pomegranates, grapes, onions, banana and mangoes. The new policy will be in consonance with the Centre's Agriculture Export Policy which aims at reinvigorating the entire value chain from export-oriented farm production and processing to transportation, infrastructure and market access.
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➤ ***Golden Temple street gets 'clean food hub' tag***

- Punjab has been awarded a certificate of achievement in state food safety index, conferred by the Union health ministry, while the Golden Temple street has been declared as 'Clean Street Food Hub' by Food Safety and Standards Authority of India (FSSAI).
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➤ ***Telangana: Rythu Bandhu financial assistance enhanced to Rs 5000***

- The Telangana government has enhanced the financial assistance given to farming community under Rythu Bandhu scheme for 2019-20 from Rs 4000 to Rs 5000.
 - The enhanced amount of Rs 5,000 per acre per farmer each season would be paid to all pattadars and RoFR (Recognition of Forest Rights) title holders through the RBI payment platform e-Kuber.
-

➤ ***Kaleshwaram irrigation project inaugurated in Telangana***

- Telangana chief minister K. Chandrashekhar Rao on 21 June 2019 inaugurated the Rs 80,190 crore Kaleshwaram irrigation project at its starting point in Medigadda (Jayshankar Bhupalapally) district of the state.
- L&T Construction, the construction arm of Larsen & Toubro, completed the iconic Medigadda Barrage, in just 24 months.
- Designed to bring drinking water and irrigation to the parched areas of Telangana, a total of about 225 thousand million cubic

feet (TMC) of water will be drawn through it from the Godavari river basin.

- Previously, water was to be drawn from the Godavari river by constructing a barrage at Tummidihatti village in Adilabad district at a cost of Rs. 40,300 crore (under the original plan) to irrigate 16.14 lakh acres. Now, the same is to be done at Medigadda village in Jayshankar-Bhoopalpally district.

➤ ***New Chairman of Agricultural Scientific Recruitment Board***

- Aditya Kumar Mishra is appointed as the new Chairman of Agricultural Scientific Recruitment Board (ASRB).
- Aditya Mishra is a veterinary professor and former Vice-Chancellor of GB Pant University of Agriculture and Technology, Pantnagar.
- He will hold this post till January 5, 2022 when he attains the age of 65 years.
- **ASRB** was established on 1st November 1973 as an independent recruitment agency in pursuance of the recommendations of the Gajendragadkar Committee. ASRB recruits technical manpower for national agricultural research system.
- ASRB was restructured on August, 2018. The ASRB will now be a 4 Member body instead of 3 Members. It will have a Chairperson and 3 Members.
- ASRB was delinked from ICAR and attached with Department of Agricultural Research & Education (DARE) under Ministry of Agriculture & Farmers' Welfare.

➤ ***NITI Aayog releases composite water management index***

- Gujarat, Andhra Pradesh, Madhya Pradesh, Goa and Karnataka have topped the Composite Water Management Index 2.0 for 2017-18 among non-Himalayan states. Among Himalayan states, Himachal Pradesh, Uttarakhand and Tripura are on top of the index.

- The composite water management index (CWMI) 2.0 was released by NITI Aayog on 23 August 2019.
 - The states are ranked across nine themes and cover 25 states and two union territories.
 - The CWMI is an important tool to assess and improve the performance of states and union territories in efficient management of water resources. This has been done through a first of its kind water data collection exercise in partnership with ministry of jal shakti, ministry of rural development and all the states/ union territories.
-

➤ ***Maharashtra ranks first in NITI Aayog's ease of doing farm business***

- NITI (National Institution for Transforming India) Aayog released its "Agricultural Marketing and Farmer Friendly Reforms Index" (AMFFRI) for the year 2019.
- It is an index launched by NITI Aayog in 2016.
- The main reason is to rank states and union territories based on the implementation of seven provisions proposed under the model Agricultural Produce Market Committee (APMC) Act.
- Maharashtra ranked first for implementing most of the marketing reforms.
- Gujarat secured the second rank with a score of 71.5 out of 100, followed by Rajasthan and Madhya Pradesh.
- The Index scores ranged from 0-100.
- The Minimum value "0" implies no reforms and maximum value "100" implies complete reforms in the selected areas.
- The states in the order are
 - 1 - Maharashtra
 - 2 - Gujarat
 - 3 - Rajasthan
 - 4 - Madhya Pradesh
 - 5 - Haryana
 - 6 - Himachal Pradesh

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7 - Andhra Pradesh

8 - Karnataka

9 - Teleganna

10 - Goa

➤ **Pradhan Mantri Kisan Samman Nidhi launched**



- To provide an assured income support to the small and marginal farmers, the Government has launched the **Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)**.
- The scheme was announced by Piyush Goyal during the 2019 Interim Union Budget of India on 1 February 2019.
- On 24 February 2019, PM Narendra Modi launched Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) scheme in Uttar Pradesh's Gorakhpur by transferring the first instalment of Rs. 2,000 each to over one crore farmers.
- It is a Central Sector scheme with 100% funding from Government of India.
- Under the Scheme an income support of Rs.6000/- per year is provided to all farmer families across the country in three equal

installments of Rs.2000/- each every four months.

- Definition of family for the Scheme is husband, wife and minor children.
- The entire responsibility of identification of beneficiary farmer families rests with the State / UT Governments.
- The fund is directly transferred to the bank accounts of the beneficiaries.
- Farmers covered under the Exclusion Criteria of the Operational Guidelines are not eligible for the benefit of the Scheme.

Exclusion Categories

The following categories of beneficiaries of higher economic status shall not be eligible for benefit under the scheme.

- (a) All Institutional Land holders.
- (b) Farmer families in which one or more of its members belong to following categories
 - i) Former and present holders of constitutional posts
 - ii) Former and present Ministers/ State Ministers and former/ present Members of Lok Sabha/ Rajya Sabha/ State Legislative Assemblies/ State Legislative Councils, former and present Mayors of Municipal Corporations, former and present Chairpersons of District Panchayats.
 - iii) All serving or retired officers and employees of Central/ State Government Ministries /Offices/Departments and its field units Central or State PSEs and Attached offices /Autonomous Institutions under Government as well as regular employees of the Local Bodies
(Excluding Multi Tasking Staff /Class IV/Group D employees)
 - vi) All superannuated/retired pensioners whose monthly pension is Rs. 10,000/- or more
(Excluding Multi Tasking Staff / Class IV/Group D employees) of above category
 - v) All Persons who paid Income Tax in last assessment year
 - vi) Professionals like Doctors, Engineers, Lawyers, Chartered Accountants, and Architects registered with Professional bodies and carrying out profession by undertaking practices.

➤ ***Arecanut gets its first GI tag for 'Sirsi Supari'***

- For the first time in the arecanut sector, 'Sirsi Supari' grown in Uttara Kannada has received the Geographic Indication (GI) tag. It is cultivated in Yellapura, Siddapura and Sirsi taluks.
 - **Totgars' Cooperative Sale Society Ltd., Sirsi**, is the registered proprietor of the GI.
 - The Registrar of Geographical Indications, under the Union government, Chennai issued the certificate to the society on March 4, 2019. Its GI number is 464.
 - 'Sirsi Supari' is used both as 'chali' (white arecanut) and red arecanut. The 'chali' variety is made by peeling the ripened nuts and sun drying them later. The red arecanut is produced by harvesting the tender nuts, then boiling and colouring them, then making them into different grades and finally sun drying them.
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➤ ***Animal Husbandry Park to come up at Salem***

- A Rs. 396 crore animal husbandry park, the 'biggest' such multi-disciplinary facility in Asia, with facilities for bovine, dairy and fisheries resources, will come up at Salem.
 - It will have a modern veterinary hospital, a milch cows farm to highlight latest farm techniques, a facility to house local dog breeds, a business incubation centre to create value added products from milk, meat and egg.
-

➤ ***MSP for Raw Jute for 2019-20 season hiked to Rs. 3950/- from Rs. 3700/- per quintal***

- The Cabinet Committee on Economic Affairs, chaired by the Prime Minister Shri Narendra Modi, has given its approval for the increase in the Minimum Support Price (MSP) for Raw Jute for 2019-20 season.
- The Minimum Support Price (MSP) for Fair Average Quality (FAQ) of Raw Jute has been increased to Rs. 3950/- per quintal for 2019-20 season from Rs. 3700/- per quintal in 2018-19 season.

Nodal Agency:

- The **Jute Corporation of India** would continue to act as Central Nodal Agency to undertake price support operations at the MSP in the Jute growing states.
-

➤ ***Cabinet approves launch of Kisan Urja Suraksha evam Utthaan Mahabhiyan***

- The Cabinet Committee on Economic Affairs, chaired by Hon'ble Prime Minister Shri Narendra Modi has approved launch of Kisan Urja Suraksha evam Utthaan Mahabhiyan with the objective of providing financial and water security to farmers.
- **The proposed scheme consists of three components:**
1. **Component-A:** 10,000 MW of Decentralized Ground Mounted Grid Connected Renewable Power Plants.
 2. **Component-B:** Installation of 17.50 lakh standalone Solar Powered Agriculture Pumps.
 3. **Component-C:** Solarisation of 10 Lakh Grid-connected Solar Powered Agriculture Pumps.
- All three components combined, the scheme aims to add a **solar capacity of 25,750 MW by 2022**. The total central financial support provided under the scheme would be Rs. 34,422 crore.
 - The Component-A and Component-C will be implemented on pilot mode for 1000 MW capacity and one lakh grid connected agriculture pumps respectively and thereafter, will be scale-up on success of pilot run. Component-B will be implemented in full-fledged manner.
 - Under Component A, Renewable power plants of capacity 500 KW to 2 MW will be setup by individual farmers/cooperatives/ panchayats /farmer producer organisations (FPO) on their barren or cultivable lands. The power generated will be purchased by the DISCOMs at Feed in tariffs determined by respective SERC. The scheme will open a stable and continuous source of income to the rural land owners. Performance Based Incentives @ Rs. 0.40 per unit for five years to be provided to DISCOMs.
 - Under Component B, individual farmers will be supported to install standalone solar pumps of capacity up to 7.5 HP. Solar PV

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capacity in kW equal to the pump capacity in HP is allowed under the scheme.

- Under Component C of the scheme, individual farmers will be supported to solarise pumps of capacity up to 7.5 HP. Solar PV capacity up to two times of pump capacity in kW is allowed under the scheme. The farmer will be able to use the generated energy to meet the irrigation needs and the excess available energy will be sold to DISCOM. This will help to create an avenue for extra income to the farmers, and for the States to meet their RPO targets.
 - For both Component-B and Component-C, central financial assistance (CFA) of 30% of the benchmark cost or the tender cost, whichever is lower, will be provided. The State Government will give a subsidy of 30%; and the remaining 40% will be provided by the farmer. Bank finance may be made available for meeting 30% of the cost. The remaining 10% will be provided by the farmer. Higher CFA of 50% will be provided for North Eastern States, Sikkim, Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Lakshadweep and A&N Islands.
 - The Scheme will have substantial environmental impact in terms of savings of CO₂ emissions. All three components of the Scheme combined together are likely to result in saving of about 27 million tonnes of CO₂ emission per annum. Further, Component-B of the Scheme on standalone solar pumps may result in saving of 1.2 billion liters of diesel per annum and associated savings in the foreign exchange due to reduction of import of crude oil.
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➤ 4th Agri Leadership Summit 2019 Held At Sonipat

- The then Union Minister of Agriculture and Farmer's Welfare, Radha Mohan Singh, inaugurated the 4th Agri Leadership Summit 2019 at the India International Horticulture Market (IIHM) in Ganaur, Sonipat district, Haryana.
- It was organized from 15 Feb to 17 Feb 2019.
- The theme of the summit was **"Entrepreneurship & Agri-Business; Agri Allied – A Promising Sector and Agri Service-Direct Marketing"**.

➤ ***India's 1st Aqua Mega Food Park Commissioned in Andhra Pradesh***

- Union Minister of Food Processing Industries Harsimrat Kaur Badal commissioned Godavari Mega Aqua Food Park at Tundurru Village in Bhimavaram Mandal, West Godavari District, Andhra Pradesh through video conferencing.
 - The park is promoted by **Godavari Mega Aqua Food Park Pvt. Ltd.** It will be the first Mega Aqua Food Park operationalised exclusively for fish and marine products processing in the state of Andhra Pradesh. The Godavari Mega Aqua Food Park Pvt. Ltd has been set up in 57.81 acre of land at a cost of Rs. 122.60 crores.
-

➤ ***RBI raises limit for collateral-free agri loans to Rs. 1.6 lakh from Rs. 1 lakh***

- The Reserve Bank of India raised the limit for collateral-free agriculture loans to Rs. 1.6 lakh from Rs. 1 lakh.
 - It will enhance coverage of small and marginal farmers in the formal credit system.
-

➤ ***MP launches Rs 50,000 cr farm loan waiver scheme***

- Madhya Pradesh Chief Minister Kamal Nath launched his government's Rs 50,000-crore farm debt-waiver scheme named 'Jai Kisan Rin Mukti Yojana'.
 - It will benefit 55 lakh small and marginal farmers and cost the state exchequer Rs 50,000 crore.
 - Farmers who have registered themselves to pay GST and are paying income tax, cannot avail benefits under this scheme.
-

➤ ***CCEA approves launch of KUSUM scheme***

- The government approved the launch of the **Kisan Urja Suraksha evam Utthaan Mahabhiyan (KUSUM)** with a central aid of Rs

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34,422 crore to provide financial and water security to farmers through harnessing solar energy capacities of 25.75 gigawatt (GW) by 2022.

The scheme consists of three components:

1. Setting up 10 GW grid-connected renewable power plants, each of 500KW to 2MW in rural areas;
 2. Installation of 1.75 million standalone off-grid solar water pumps to fulfill irrigation needs of farmers not connected to the grid; and
 3. Solarisation of existing 1 million grid-connected agriculture pumps to make farmers independent of the grid supply and also sell surplus power to distribution companies and get extra income.
-

➤ *Goa govt hands control of sole sugar factory to Agri dept*

- The Goa government has decided to hand over the control of a sugar factory managed by its Cooperative department to Agriculture ministry, buckling under the constant demands by farmers.
 - Farmers providing sugarcane to **the Sanjivani Sahakari Sakhar Karkhana** have been alleging poor management at the unit--the sole such facility in the coastal state. The factory is located at **Usgao village in North Goa**.
 - The factory would be upgraded under the Centre's Rashtriya Krishi Vikash Yojana (RKVY) in which 60 per cent of total funds will be provided by Union government while the state government will bear remaining cost.
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➤ *Agricultural Project with FAO*

- The government has launched a Global Environment Facility (GEF) assisted project namely, **"Green – Ag: Transforming Indian Agriculture for global environment benefits and the conservation of critical biodiversity and forest landscapes"** in collaboration with the Food and Agriculture Organisation (FAO) during September, 2018 in high-conservation-value landscapes of five States namely (i) Madhya Pradesh : Chambal Landscape, (ii)

Mizoram: Dampa Landscape, (iii) Odisha: Similipal Landscape, (iv) Rajasthan: Desert National Park Landscape and v) Uttarakhand: Corbett-Rajaji Landscape.

- The overall objective of the project is to catalyze transformative change of India's agricultural sector to support achievement of national and global environmental benefits and conservation of critical biodiversity and forest landscapes.
-

➤ ***Jaivik India Award***

- **Punjab** has been declared the **second best state** among states of north and north-east India for extensive promotion and implementation of organic farming and bagged prestigious "**Jaivik India Award**".
 - The function was organised by **International Competence Centre for Organic Agriculture (ICCOA)** with support from the Government of Karnataka.
 - **Manipur Organic Mission Agency (MOMA)** has been declared the best State Government agency supporting organic farming.
 - **Uttarakhand** bagged the third position.
-

➤ ***Cabinet approved establishment of Rashtriya Kamdhenu Aayog***

- On 6 Feb., 2019, the Union Cabinet chaired by the Prime Minister Shri Narendra Modi has approved the proposal for establishment of **Rashtriya Kamdhenu Aayog for conservation, protection and development of cows and their progeny**.
- The setting up of Rashtriya Kamdhenu Aayog will lead to conservation, protection and development of cattle population in the country including development and conservation of indigenous breeds.
- It will result in increased growth of livestock sector which is more inclusive, benefitting women, and small and marginal farmers.
- The Rashtriya Kamdhenu Aayog will work in collaboration with Veterinary, Animal Sciences or Agriculture University or departments or organizations of the Central/State Government

engaged in the task of research in the field of breeding and rearing of cow, organic manure, biogas etc.

➤ ***Centre approves Rs. 7,214 crore relief package for States affected by natural calamity***

- The Home Ministry on 29 Jan., 2019 approved the release of Rs. 7,214 crore to six States and a Union Territory, including Rs. 4,714 crore to Maharashtra, for floods, drought and cyclone damage.
- Among the sanctioned amount, Rs. 4,714.28 crore will be given to Maharashtra (drought), Rs. 949.49 crore to Karnataka (drought), Rs. 900.4 crore to Andhra Pradesh (drought), Rs. 317.44 crore to Himachal Pradesh (flood and landslips), Rs. 191.73 crore to Uttar Pradesh (flood), Rs. 127.60 crore to Gujarat (drought) and Rs. 13.09 crore to the Union Territory of Puducherry (cyclone).

➤ ***Kalia scheme launched***

- The government of Odisha has launched the **Krushak Assistance for Livelihood and Income Augmentation (KALIA)** scheme, which would benefit about 92% of the farmers in the State.
- The government has earmarked Rs 10,180 Crore for KALIA in 3 years.
- The scheme will provide financial, livelihood, cultivation support along with insurance support to small, marginal and the landless farmers.
- All small and marginal farmers along with landless agricultural households, vulnerable agricultural household, landless agricultural labourers and sharecroppers/actual cultivators are



KALIA
KRUSHAK ASSISTANCE FOR LIVELIHOOD AND INCOME AUGMENTATION

BUDGET
₹10,180 CR

SUPPORT FOR CULTIVATION	₹15,000 per family in Khar & Kharif seasons, covering 30 lakh small & marginal farmer families benefiting 92% of all cultivators in the state.
SUPPORT FOR LIVELIHOOD	₹12,500 to 10 lakh landless agriculture households for livelihood activities
FINANCIAL ASSISTANCE	₹15,000 per annum to 10 lakh vulnerable agriculture households & landless labourers
LIFE INSURANCE COVER	Life insurance cover of ₹2 lakhs and additional Personal Accident Cover of ₹2 lakhs to 50 lakh households of cultivators and landless agri labourers
INTEREST FREE CROP LOANS	All loans up to ₹50,000 now interest free

eligible under different components of KALIA.

- Financial aid of Rs. 25,000 per farm family over five seasons will be provided to small and marginal farmers so that they can purchase seeds, fertilizers, pesticides and use assistance towards labour. The scheme is implemented from Rabi season 2018-19 onwards.
- Financial assistance of Rs 12500/- will be provided to each landless agricultural household for agricultural allied activities such as goat rearing, small layer poultry units, duckery units, fishery kits for fishermen, mushroom cultivation, bee-keeping and so on.
- Vulnerable cultivators/landless agricultural labourers will get financial assistance of Rs. 10,000/- per family per year.

➤ **Life Insurance support**

- 1) Life insurance cover of **Rs 2 lakh** at a very nominal **premium of Rs. 330** will be provided to all savings bank account holder of age between **18-50 years**. Government of Odisha will bear farmers' share of annual premium of Rs. 165.
- 2) **Personal accident cover of Rs. 2.00 lakh** at a very nominal **annual premium of Rs 12** for all savings bank account holder aged between **18-50 years**. Out of Rs 12 towards premium, Rs 6 is the farmers' share, which will be borne by the government of Odisha.
- 3) In respect of the above beneficiary whose age is between 51-70 years, the entire amount of Rs 12 towards annual premium will be borne by the government.

➤ **Interest-free crop loan**

- Crop loan up to Rs 50,000 will be provided at 0% interest from the Kharif Season of the year 2019.
- In January 2019, Odisha government has decided to increase the number of target beneficiary for farmers' welfare scheme 'KALIA' for the landless agricultural household group to **five lakh during 2019-20**.

➤ ***CCEA approves creation of Agri-Market infrastructure fund***

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- The Cabinet Committee of Economic Affairs Chaired by Prime Minister Narendra Modi on 6 February 2019 gave its approval for the creation of a corpus of **Rs. 2000 crore** for **Agri-Market Infrastructure Fund (AMIF)** to be created with NABARD for development and up-gradation of agricultural marketing infrastructure in Gramin Agricultural Markets and Regulated Wholesale Markets.
 - AMIF will provide the State/UT Governments subsidized loan for their proposal for developing marketing infrastructure in 585 Agriculture Produce Market Committees (APMCs) and 10,000 Grameen Agricultural Markets (GrAMs).
 - After approval of AMIF Scheme, the interest subsidy will be provided by DAC&FW to NABARD in alignment with annual budget releases during 2018-19 and 2019-20 as well as upto 2024-25.
-

➤ ***The then Union Minister of Agriculture & Farmers Welfare Shri Radha Mohan Singh releases recombinant ELISA kits***

- The then Union Minister of Agriculture & Farmers Welfare Shri Radha Mohan Singh released recombinant **Enzyme-linked immune sorbent assay (ELISA) kits** : one for Glanders and other for Equine Infectious Anaemia.
- Both these diseases are notifiable diseases in India and require special diagnosis for control and eradication in the country.
- **Glanders** is a fatal infectious and notifiable disease of equines including horses, donkeys and mules.
- The disease is caused by a bacterium known as *Burkholderia mallei* and has zoonotic potential.
- The organism is also considered as potential bio-weapon and categorized under 'Tier 1 Select Agent'. After continuous research efforts of more than eight years, National Research Centre on Equines (NRCE) has been able to develop a recombinant Hcp1 antigen ELISA as an alternate to complement-fixation test (CFT).
- **Equine infectious anaemia (EIA)** is a chronic, debilitating and persistent infectious disease of equines caused by a retrovirus. It

is an OIE notifiable disease. NRCE has also developed recombinant p26 protein-based ELISA as an alternative to Coggin's test.

➤ ***Himachal's first mega food park in Una***

- Food Processing Minister Harsimrat Kaur Badal inaugurated **Cremica Food Park**, which is the first mega food park of Himachal Pradesh.
 - The Cremica Mega Food Park will benefit people of Una district and nearby districts of Kangra, Hamirpur and Bilaspur.
 - The park has been set up in 52.40 acre of land at a cost of Rs 107.34 crore. The facilities being created by the developer at Central Processing Centre (CPC) of this mega food park include Multi-crop pulping line with bulk aseptic packaging (24 MT/hour), Frozen storage (1,000 MT), Deep Freeze, Dry Warehouse, QC Laboratory and other food processing facilities.
-

➤ ***Free milk scheme launched for anganwadi children***

- Uttarakhand Chief Minister Trivendra Singh Rawat launched the **Mukhyamantri Anchal Amrit Yojana** under which 2.5 lakh children at 20,000 Anganwadi kendras in the state will be given 100 ml milk twice a week for free.
 - Flavoured, sweet, skimmed milk powder will be made available to the 20,000 Anganwadi kendras across the state under the Amrit Yojana.
-

➤ ***Rice Knowledge Bank launched***

- 'Rice Knowledge Bank - Assam', an agriculture web portal dedicated to enhancing knowledge on rice production techniques and technologies, best production practices and state agriculture facts, was launched as part of the World Bank funded project- **Assam Agri-business and Rural Transformation (APART)**.
- The portal is the result of efforts of Assam Rural Infrastructure and Agricultural Services Society (ARIAS, Autonomous body of Govt of Assam); Assam Agricultural University (AAU); with technical assistance from International Rice Research Institute

(IRRI).

➤ ***Sweet Revolution scheme launched in Jharkhand***

- Jharkhand Chief Minister Raghubar Das launched the first phase of the Rs 100-crore Sweet Revolution Scheme under which 1,207 farmers will be given Rs 1 lakh for bee keeping.
 - Of the amount, Rs 80,000 is in the form of grant. Farmers can earn Rs 1.30 lakh every year by just investing Rs 20,000.
-

➤ ***India to host 13th Conference of Parties (COP) of the Convention on the Conservation of Migratory Species of Wild Animals (CMS)***

- The 13th Conference of Parties (COP) of the Convention on the conservation of migratory species of wild animals (CMS), an environmental treaty under the aegis of United Nations Environment Programme, is going to be hosted by India during 15th to 22nd February, 2020 at Gandhinagar in Gujarat.
- India has been a Party to the CMS since 1983. The Conference of Parties (COP) is the decision-making organ of this convention.
- The Centre announced the **Great Indian Bustard (GIB)** as the mascot for the 13th UN Convention on the Conservation of Migratory Species (CMS) (COP 13).
- The Convention on the Conservation of Migratory Species of Wild Animals -- more commonly abbreviated to just the Convention on Migratory Species (CMS) or the Bonn Convention and CMS COP is known as Global Wildlife conference—aims to conserve terrestrial, marine and avian migratory species throughout their range. It is an international treaty, concluded under the aegis of the United Nations Environment Programme, concerned with the conservation of wildlife and habitats on a global scale.
- The Convention was signed in 1979 in Bad Godesberg, a suburb of Bonn (hence the name), and entered into force in 1983. The depositary is the government of the Federal Republic of Germany.
- CMS COP is also known as a Global Wildlife Conference.

➤ **National Horticulture Fair 2019**

- The ICAR- Indian Institute of Horticultural Research (IIHR), country's leading institute situated at Hessarghatta (Bangalore), organized a national horticulture fair from 23rd to 25th January, 2019 to exhibit its popular crop varieties, cropping practices and advanced technologies.
- IIHR is holding the fair in collaboration with Society for Promotion of Horticulture, Bengaluru; Department of Horticulture, Government of Karnataka, National Horticulture Board, Gurugram & CDB (DAC).
- The aim of the horticulture fair is to turn farmers into entrepreneurs, which is being held with the theme '**Horticulture for Rural Prosperity**'.



➤ **Marayoor jaggery got GI tag**

- The Marayoor jaggery, the traditional and handmade product from Idukki district, has received the Geographical Indication (GI) tag from central government.
- Produced in Marayoor, this jaggery is made from sugarcane and no chemicals are added during the manufacturing process.
- Workers from Onakkallur, a village in Udumalpet in Tamil Nadu, are engaged in the production of the Marayoor jaggery.
- Jaggery is the term for dark brown sugar balls made of condensed sugar cane juice.

➤ ***Govt launched Asiatic Lions Conservation Project***

- The Ministry of Environment, Forest and Climate Change on 21 December 2018 launched the 'Asiatic Lion Conservation Project' with an aim to protect and conserve the world's last ranging free population of Asiatic Lion.
- The total budget of the project for the next three years will be funded through a centrally sponsored scheme, the Development of Wildlife Habitat, with the contributing ratio of 60:40 for central and state share.

About Asiatic lions:

- Lion is one of five pantherine cats inhabiting India, along with the Bengal tiger, Indian leopard, snow leopard and clouded leopard. It was also known as 'Indian lion' and 'Persian lion'. Asiatic Lions are listed as '**Endangered**' under the **IUCN Red List**. Its population is restricted to the state of Gujarat in India.

➤ ***Agriculture ministry launched online portal 'Ensure' to connect with direct benefit transfer***

- The Agriculture Ministry launched online portal **Ensure** to connect with direct benefit transfer and provide simple, useful and transparent system to the beneficiary.
- The then Union Minister of Agriculture and Farmers' Welfare Shri Radha Mohan Singh launched the portal **ENSURE- National Livestock Mission-EDEG developed by NABARD** and operated under the Department of Animal Husbandry, Dairying & Fisheries.
- Under the Mission's component called **Entrepreneurship Development and Employment Generation (EDEG)**, subsidy payment for activities related to poultry, small ruminants, pigs etc. through Direct Benefit Transfer (DBT) goes directly to the beneficiary's account.
- Under the new process, controlling officer/branch manager of the bank, after scrutinizing and sanctioning of proposal, uploads the subsidy claims in the portal.
- The subsidy will be approved within 30 days from the date of sanction of loan. Earlier, even after the loan approval, subsidy took a long time to reach the beneficiary's account.

➤ ***President Kovind dedicates ACARE project to people of Myanmar***

- President Ram Nath Kovind dedicated - India assisted project 'Advanced Centre for Agricultural Research & Education' - to the people of Myanmar.
 - The project focuses on Genetics, Post Harvest Technology, Participatory Knowledge Management and capacity building for farmers in Myanmar.
 - President Kovind also dedicated the **Rice Bio Park in Yezin Agricultural University** to the people of Myanmar which was set up under the mentorship of M S Swaminathan Research Foundation.
-

➤ ***Assam Government announced 3 Schemes For Farmers***

- In order to mark the 125th anniversary of the 'Battle of Pothorughat', the Assam government have announced three new schemes for the farmers.
 - Three schemes for farmers-
 - **Assam Farmers Credit Subsidy Scheme** - Those farmers who took the loan from banks between April 1, 2018, to March 31, 2019, will get reimbursement of 25%, with a cap of Rs 25000 limit. This will cover around 2 lakh farmers at an expenditure of Rs 500 crores. It will be made a regular scheme depending on the success of the scheme.
 - **Assam Farmers Interest Relief Scheme (Zero Percent Interest)** - On farmers loan, Union government is paying an interest of 3% on behalf of the farmers and the remaining 4% is now being paid by the farmers. But from now, this 4% will be paid by the State and the farmers will not have to pay any interest. Hence, farmers loan will be now tax-free in the State. The ceiling amount of loan to avail this benefit is Rs 2 lakh.
 - **Assam Farmers Incentives Scheme** - This scheme aims to bring back farmers to the banking system. It will cover around 3 lakh farmers. Under this scheme, the State government will pay a one-time cash incentive up to Rs 10000 for activating the inactive KCC accounts provided the farmers' deposits the outstanding loan amounts.
-

➤ ***'Soura Jalanidhi' scheme launched***

- On 30 October 2018, Chief Minister of Odisha Mr. Naveen Patnaik launched '**Soura Jalanidhi**' scheme which aims at increasing use of solar energy for helping farmers in irrigation.
 - '**Soura Jalanidhi**' is a dug well based solar pump irrigation system in convergence mode.
 - Under the scheme, **5,000 solar pumps** will be provided to farmers at a **subsidy of 90 per cent to irrigate 2,500 acres of land**.
 - Farmers having valid farmer-id, belonging to small and marginal categories having minimum **0.5 acre** cultivable land holding and a dug well will be covered under the programme.
-

➤ ***'Swachhta' awards***

- Union Minister of Food Processing Industries Harsimrat Kaur Badal distributed prizes for cleanliness among mega food parks and cold chain units for maintaining, promoting and encouraging 'Swachhta Culture'.
 - **Winners :**
First Prize : Patanjali Food and Herbal Park (P) Ltd. in Haridwar
Second Prize : Satara Mega Food Park (P) Ltd., Satara District, Maharashtra
Third Prize : Pagro Frozen Foods Pvt.(P) Ltd. (Cold Chain Project) in Fatehgarh Sahib, Punjab
 - The winners were selected by **National Institute of Food Technology Entrepreneurship and Management** based on '**Swachhta Audit**' conducted by it of 11 Mega Food Parks and 11 Cold Chain Units.
-

➤ ***Operation Greens Scheme***

- Ministry of Food Processing Industries (MoFPI) under Union Minister Smt Harsimrat Kaur Badal has approved the operationalisation strategy for Operation Greens.
- Operation Greens was announced in the Budget speech of 2018-19 with an outlay of Rs 500 crores to stabilize the supply of **Tomato, Onion and Potato (TOP) crops** and to ensure availability of TOP crops throughout the country round the year without price volatility.

Strategy comprises

- Short term Price Stabilisation Measures : National Agricultural Cooperative Marketing Federation of India (NAFED) will be nodal agency to implement price stabilisation measures. MoFPI will provide 50% of subsidy two components of transportation of TOP Crops from production to storage and hiring of appropriate storage facilities for TOP Crops.
 - Long Term Integrated value chain development projects
-

➤ IIT-Madras develops portable cold storage device

- The Indian Institute of Technology-Madras has developed a portable solar-powered cold storage device with a **500 kg capacity** for storing vegetables, and fruits, among other items.
 - The device will help farmers store their produce for sufficient time so that it does not get spoilt before it is sold, thereby preventing wastage of agricultural produce.
 - The first unit of the device, which provides storage facility with temperature ranging between 4 and 10 degree celsius, was deployed at a farm in Madurantakam in Kancheepuram district, around 80 km from Chennai.
 - Vegetables, leaves, flowers and fruits can be stored for 24 hours in the device. Each device would be enough for 5 or 6 acres of land or for a group of three to four farmers.
 - The unit uses thermal energy storage. The photovoltaic-powered refrigeration system is used to charge the indoor thermal battery in the form of latent heat during day time and used to maintain temperature (10° C) for 20-24 hours.
 - A startup called **Tan90**, initiated by IIT-M students, aims to commercialise the technology and take it to individual farmers with even smaller devices at affordable prices.
-

➤ Union Agriculture Minister releases Model Agriculture Produce and Livestock Contract Farming and Services (Promotion & Facilitation) Act, 2018

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- Shri Radha Mohan Singh, the then Union Agriculture Minister released "The State/UT Agricultural Produce and Livestock Contract Farming and Services (Promotion & Facilitation) Act 2018" on 22 May 2018.

Salient features of Model Contract Farming Act, 2018 are :

- The Act lays special emphasis on protecting the interests of the farmers, considering them as weaker of the two parties entering into a contract.
 - In addition to contract farming, services contracts all along the value chain including pre-production, production and post-production have been included.
 - "Registering and Agreement Recording Committee" or an "Officer" for the purpose at district/block/ taluka level for online registration of sponsor and recording of agreement provided.
 - Contracted produce is to be covered under crop / livestock insurance in operation.
 - Contract framing to be outside the ambit of APMC Act.
 - No permanent structure can be developed on farmers' land/premises
 - No right, title of interest of the land shall vest in the sponsor.
 - It is a promotional and facilitative Act and not regulatory in its structure
-

➤ ***Govt bans 12 pesticides with immediate effect***

- The India Union Ministry of Agriculture and Farmers Welfare has notified **Pesticides (Prohibition) Order, 2018** under which use of 18 pesticides will be banned.
- Of the total 18, 11 pesticides are banned with immediate effect and six will face the axe from December, 2020 and one pesticide **Trifluralin**, which is widely used as herbicide, is **allowed only in wheat**.
- The Centre has taken the decision following **Anupam Verma committee** (constituted in July 2013), set up to review the continued use of 66 pesticides that have been banned/restricted for use in farming in other countries, found that these 18 pesticides pose risk to humans and animals.
- **Banned Pesticides** : Benomyl, Carbaryl, Diazinon, Fenarimol, Fenthion, Linuron, Methoxy Ethyl Mercury Chloride, Methyl Parathion, Sodium Cyanide, Thiometon, Tridemorph, Trifluralin
- **Ban from December 31, 2020** : Alachlor, Dichlorvos, Phorate, Phosphamidon, Triazophos, Trichlorfon.

➤ ***Kerala govt. launched Gau Samridhi Plus Scheme***

- Kerala govt. has launched Gau Samridhi Plus Scheme to provide insurance coverage to the dairy farmers.
- This is a govt. subsidized scheme in order to ensure that farmers can get coverage at low premium rates. All the farmers who belongs to the **general category** will get **50% subsidy** on premiums while those belonging to **scheduled caste (SC) or scheduled tribe (ST) category** would get **70% subsidy on premium**.
- Insurance coverage policy under Gau Samridhi Plus scheme is available in 2 versions – first is for 1 year and second is for 3 years. Now cattles and owners of these cows will get insurance at less premium rates.

➤ ***Amitabh Bachchan honoured with Sayaji Ratna Award***

- Amitabh Bachchan was on 20 Nov., 2018 awarded the third Sayaji Ratna Award, established in the memory of erstwhile Baroda ruler Sayajirao Gaekwad III.
- Amitabh Bachchan had paid off the loans of several farmers from Uttar Pradesh and Maharashtra.
- The Baroda Management Association had, in 2013, instituted the award to mark the 150th birth anniversary of the ruler, known for undertaking major social reform measures during his rule in the early twentieth century.
- Infosys co-founder **N R Narayana Murthy** and noted industrialist **Ratan Tata** have been given the award earlier.

➤ ***National Milk Day : 26 November***



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- To acknowledge the contribution of the 'Father of White Revolution', Dr Verghese Kurien towards Milk Revolution in the country, India celebrates National Milk Day every year on November 26.
 - India now stands as the largest milk producer around the world.
 - Dr Verghese Kurien is the Co-founder of 'Amul' as well as founder of NDDB (National Dairy Development Board) & IRMA (Institute of Rural Management, Anand) previously in Bombay province but now it is in Gujarat, India.
-

➤ ***Doordarshan Mahila Kisan Awards programme launched***

- Prasara Bharati Chairman Dr A Surya Prakash launched **Doordarshan Mahila Kisan Awards programme on DD Kisan Channel** in New Delhi.
 - The Mahila Kisan Award is an effort to bring the stories of struggle and success of women farmers in front of the country.
 - The women farmers have been selected by the Indian Council of Agricultural Research, ICAR.
-

➤ ***Gujarat's first mega food park inaugurated in Surat***

- Harsimrat Kaur Badal, minister for food processing industries, Government of India, inaugurated Gujarat's first mega food park in Surat district.
 - Promoted by Gujarat Agro Infrastructure Mega Food Park Pvt Ltd, the park is located at Village Shah and Vasravi, Taluka Mangrol.
 - The ministry has sanctioned another mega food park in Mehsana district of the state.
 - The Gujarat Agro Mega Food Park will benefit the people of Surat district and the people of the nearby districts of Navsari, Tapi, Narmada and Bharuch. This mega food park has been set up in 70.15 acre of land at a cost of Rs 117.87 crore.
 - Under the mega food park scheme, the Government of India provides financial assistance upto Rs 50 crore per mega food park project.
-

➤ ***M.S. Swaminathan received 1st World Agriculture Prize***

- Professor M.S. Swaminathan — founder of the M.S. Swaminathan Research Foundation (MSSRF) — was awarded the **first World Agriculture Prize at the 11th Global Agriculture Leadership Summit** in New Delhi in October 2018.
- He received the award from Vice-President M. Venkaiah Naidu at the event hosted by the Indian Council of Food and Agriculture. The M.S. Swaminathan Junior Research Fellowship — to be awarded from 2019 onwards — was also instituted on the occasion.
- The ICFA's World Agricultural Prize carries a cash component of \$1,00,000 and will recognise individuals who have served humanity through agriculture. It will be an annual prize and would be presented to any individual or institution, importantly from Asian, African or Latin American countries who have played a seminal role in transforming agriculture globally and saving humanity from the curse of hunger.
- Prof. M.S. Swaminathan is an Indian geneticist and international administrator, renowned for his leading role in India's Green Revolution, a program under which high-yield varieties of wheat and rice seedlings were planted in the fields of poor farmers. Swaminathan is known as the "Father of Green Revolution in India" for his leadership and success in introducing and further developing high-yielding varieties of wheat in India. He is the founder of the MS Swaminathan Research Foundation.

➤ ***Global Agriculture Leadership Summit 2018 held in New Delhi***

- The Global Agriculture Leadership Summit 2018 was held in New Delhi. The theme of the 2-day summit is, 'Connecting Farmers to Market'.

11TH GLOBAL AGRICULTURE
LEADERSHIP SUMMIT AND
LEADERSHIP AWARDS 2018

Global Agriculture Leadership Awards 2018

- Global Leadership Summit & Awards are being organised by Indian Council of Food and Agriculture with support of Ministry of Agriculture and Farmers' Welfare; Ministry of Food Processing Industries and Ministry of Commerce.
- The National Awards Committee of Agriculture Leadership Awards, which met in New Delhi on Oct 17, announced the Global Agriculture Leadership Awards for 2018, under various categories. The Awards Committee is chaired by Prof. M.S. Swaminathan, the architect of green revolution and has 24 members of global eminence as its members.
- **The winners are as follows:**
 - **International Leadership Award** : Prof. Rudy Rabbinge (Special Envoy – Food Security, Government of Netherlands)
 - **Policy Leadership Award** : N. Chandrababu Naidu (Andhra Pradesh CM)
 - **Best Fisheries State** : Jharkhand
 - **Best Horticulture State** : Nagaland
 - **Best Agriculture State** : Gujarat
 - **Program Leadership award** : The State Horticulture Mission, Govt. of Haryana
 - **Lifetime Achievement award** : Dr. KH Gharda (Chairman, Gharda Chemicals Ltd.)

➤ ***“Shahi litchi” got Geographical Indication tag***

- Shahi litchi, a variety of the fruit that is grown in five districts of Bihar (namely Muzaffarpur, Vaishali, Samastipur, Champaran and Begusarai) and the adjoining areas, was given the Geographical Indication (GI) tag.
- It has become the fourth product from the state to receive the status, the others being Jardalu mango, Katarni rice and Magahi paan.
- This variant of the fruit is known for its attractive appearance and delicious flavour. It is sweet and juicy and has a pearly white aril.

➤ ***GI Tag for Alphonso from Konkan***

- The government has granted Geographical Indication (GI) tag to the

Alphonso Mango from Ratnagiri, Sindhudurg and other adjoining areas in Maharashtra.

- A Geographical Indication or a GI is an indication used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin. Such a name conveys an assurance of quality and distinctiveness which is essentially attributable to its origin in that defined geographical locality. Darjeeling Tea, Mahabaleshwar Strawberry, Blue Pottery of Jaipur, Banarasi Sarees and Tirupati Laddus are some of the GIs.

➤ ***CCEA approved creation of Fisheries and Aquaculture Infrastructure Development Fund (FIDF)***

- The Cabinet Committee on Economic Affairs has given its approval for creation of special Fisheries and Aquaculture Infrastructure Development Fund (FIDF).
- The approval entails an estimated fund size of Rs.7,522 crore, comprising Rs.5,266.40 crore to be raised by the Nodal Loaning Entities (NLEs), Rs. 1,316.6 crore beneficiaries contribution and Rs.939.48 crore budgetary support from the Government of India.
- National Bank for Agriculture and Rural Development (NABARD), National Cooperatives Development Corporation (NCDC) and all scheduled Banks (hereinafter referred as Banks) shall be the nodal Loaning Entities.

Benefits :

- Creation of fisheries infrastructure facilities both in marine and Inland fisheries sectors.
- To augment fish production to achieve its target of 15 million tonne by 2020 set under the Blue Revolution; and to achieve a sustainable growth of 8% -9% thereafter to reach the fish production to the level of about 20 MMT by 2022-23.
- Employment opportunities to over 9.40 lakh fishers/fishermen/fisherfolk and other entrepreneurs in fishing and allied activities.
- To attract private investment in creation and management of fisheries infrastructure facilities.
- Adoption of new technologies.

- FIDF would provide concessional finance to State Governments / UTs and State entities, cooperatives, individuals and entrepreneurs etc., for taking up of the identified investment activities of fisheries development. Under FIDF, loan lending will be over a period of five years from 2018-19 to 2022-23 and maximum repayment will be over a period of 12 years inclusive of moratorium of two years on repayment of principal.
-

➤ ***Microsoft India signs pact with NITI Aayog for AI tools in agri, healthcare***

- Microsoft India has signed an agreement with Niti Aayog to deploy artificial intelligence (AI) technologies to address challenges in agriculture and healthcare, and promote adoption of local language computing, among others.
 - Microsoft India will support NITI Aayog by combining the cloud, AI, research and its vertical expertise for new initiatives and solutions across several core areas.
 - Under the agreement, Microsoft will provide Niti Aayog advanced AI-based solutions to address challenges in agriculture and healthcare including farm advisory services, healthcare screening models at Primary Health Centres, and building capacity for AI through education among others.
-

➤ ***National Nutrition Month : September***

- The National Nutrition Month : September was celebrated across the country to mark the fight against malnutrition.
- During this month, various programmes have been organized by the Women and Child Development Ministry to spread broad awareness on the issues related to malnutrition like stunting, under-nutrition, anaemia and low birth weight in children.
- It also focus on adolescent girls, pregnant women and lactating mothers to eliminate the deficiencies prevailing in the Health sector.
- With the aim to bring down stunting of children in the age group of 0-6 years from 38 per cent to 25 per cent by 2022, POSHAN Abhiyaan- the National Nutrition Mission was launched by Prime Minister Narendra Modi on March 8th, 2018 in Jhunjhunu, Rajasthan.

➤ ***Cabinet approved New Umbrella Scheme “Pradhan Mantri Annadata Aay SanrakshAn Abhiyan” (PM-AASHA)***

- The Union Cabinet has approved a new Umbrella Scheme “Pradhan Mantri Annadata Aay SanrakshAn Abhiyan’ (PM-AASHA). The Scheme is aimed at **ensuring remunerative prices to the farmers for their produce.**
- The new Umbrella Scheme includes the mechanism of ensuring remunerative prices to the farmers and is comprised of
 - Price Support Scheme (PSS),
 - Price Deficiency Payment Scheme (PDPS)
 - Pilot of Private Procurement & Stockist Scheme (PPPS).

➤ ***Dairy Processing & Infrastructure Development Fund launched***

- The Department of Animal Husbandry, Dairying and Fisheries (DADF) has started the Dairy Processing & Infrastructure Development Fund (DIDF) with an outlay of Rs 10881 crore during the period from 2017-18 to 2028-29.
- It will benefit 95 lakh farmers in about 50,000 villages.
- Under this scheme, milk cooperatives will be provided financial assistance of Rs 8004 crore in the form of a loan at 6.5% interest, which will be reimbursed over a period of 10 years.

➤ ***Neem and Black buck declared as state tree and animal of Andhra Pradesh***

- **Neem and black buck have been declared as the state tree and animal respectively of Andhra Pradesh. Rose-ringed parakeet will be the state bird while jasmine the flower.**
- The government felt that it is necessary to have separate symbols for the state after the bifurcation. Accordingly, the symbols have been notified for Andhra Pradesh
- Andhra Pradesh was bifurcated to create Telangana in June, 2014.
- **Blackbuck :** The blackbuck (Antelope cervicapra), also known as the

Indian antelope, is an antelope found in India, Nepal and Pakistan. The blackbuck is the sole extant member of the genus Antelope. The blackbuck is listed under Appendix III of CITES. In India, hunting of blackbuck is prohibited under Schedule I of the Wildlife Protection Act of 1972.

- **Neem** : Neem is a tree in the mahogany family Meliaceae. It is native to India, Myanmar, Bangladesh, Sri Lanka, Malaysia and Pakistan. It grows in tropical and semi-tropical regions. It was also the state tree of Hyderabad Deccan. Neem is a fast-growing tree in India that can reach up to 15–20 m (about 50–65 feet) tall, and sometimes even to 35–40 m (115–131 feet).

➤ ***Indian farmer in UAE sets world record of distributing saplings***

- An Indian farmer in the UAE has set a Guinness World Record by distributing the largest number of curry tree saplings in Sharjah.
- **Sudheesh Guruvayoor** from Kerala distributed 4,914 saplings of the organic curry tree and broke the record set by the Guru Nanak Darbar Gurudwara in Dubai who had distributed 2,083 saplings of three varieties of trees to students of Delhi Private School.
- Curry leaves are used for the aroma and flavour in the cuisine of various states in India, especially in the south.

➤ ***Nabard launched Centre for Climate Change in Lucknow***

- NABARD has launched the Centre for Climate Change in **Lucknow**, the first of its kind in South East Asia for accelerating concerted climate action by various stakeholders in government, private, financial and non-government actors.
- The Centre would help NABARD in enhancing its capacity building efforts manifold.
- The new institution would also extend professional support to stakeholders for designing climate related projects and take up collaborative studies and action research projects in area of climate change. It would also support capacity building and project preparation effort in developing countries in the region as also in Africa.

➤ ***IFFCO launched iMandi App***



- Indian Farmers Fertiliser Cooperative Limited (IFFCO), a large-scale fertiliser cooperative federation has launched a social e-commerce app and web portal, "IFFCO iMandi".
- iMandi is a strategic investment by IFFCO eBazar Ltd, which is 100 percent subsidiary of IFFCO with iMandi Pte Ltd, a Singapore based technology company.
- The objective of this initiative is to bring the benefits of digital technologies to every farmer, and bring the digital revolution to rural India.

About IFFCO

- Indian Farmers Fertiliser Cooperative Limited, also known as IFFCO is a Multi-state cooperative society engaged in the business of manufacturing and marketing of fertilisers.

Founded : 3 November

Headquarters : New Delhi

➤ ***President declared queen pineapple as Tripura's 'State Fruit'***

- President Ram Nath Kovind on 7 June 2018 declared Tripura's queen variety pineapple as state fruit.
- Tripura is one of the largest pineapple growing states in country.
- Queen pineapple is spiny, golden yellow in colour. It has pleasant aroma and flavour. Its sweetness and unique aroma differentiates it from pineapples of other states of Northeast region.
- It had received Geographical Indication (GI) tag in 2015.

➤ ***i-Hariyali app launched by Punjab Govt***

- Punjab Government has launched a mobile application — 'i-Hariyali'.
- Aimed at increasing the state's green cover, the mobile application

would enable the users to order free plant saplings. The 'i-Hariyali' app, under 'Mission Tandarust Punjab' can be downloaded from the app store for free.

- The users can book a sapling of their choice, a maximum of 25 per person, from a nearby government nursery. Once the booking is done, the contact number of the concerned employee of the nursery or the forest guard will be displayed on the mobile phone of the person.

➤ ***India ranks 177 out of 180 in Environmental Performance Index 2018***

- India has been ranked 177 among 180 countries in the **Environmental Performance Index (EPI) – 2018**. This index has been developed by Yale University and Columbia University in collaboration with the World Economic Forum and the Joint Research Centre of the European Commission.
- While India is at the bottom of the list in the environmental health category, it ranks 178 out of 180 as far as air quality is concerned.
- Top 5 countries in the EPI : Switzerland, France, Denmark, Malta and Sweden.
- The Environmental Performance Index (EPI) is a method of quantifying and numerically marking the environmental performance of a state's policies. This index was developed from the Pilot Environmental Performance Index, first published in 2002, and designed to supplement the environmental targets set forth in the United Nations Millennium Development Goals.



➤ ***"Status of Environment Report, India 2015" released***

- The **"Status of Environment Report, India 2015"**, released by the then Environment Minister Harsh Vardhan at the state environment ministers's conference on 4 June 2018, said forests and tree cover

together constitute about **24.16 per cent of the country's geographical area**.

- As per the latest estimate by Forest Survey of India (FSI), in 2015, the **forest cover stood at 21.34 per cent of India's total geographical area**, with a marginal rise from 20.05 per cent in 2009.
 - **Mizoram** with 89 per cent has the **highest forest cover** among the states and Union territories in the country. It is followed by Lakshdweep (84.56 percent), Andaman and Nicobar Islands (82 per cent), Arunachal Pradesh (80 per cent).
 - Assam's forest cover at 35 per cent was the lowest in the list of 15 states and Union territories (UTs) having more than 33 per cent forest cover.
 - Madhya Pradesh has the maximum forest cover of 72,462 sq km in the country.
 - The FSI defines forests as all lands, more than one hectare in area, with a tree canopy density of more than 10 per cent.
-

➤ ***CCEA approves continuation of Umbrella Scheme Green Revolution-Krishonnati Yojana in agriculture sector***

- Cabinet Committee on Economic Affairs (CCEA) has approved continuation of Umbrella Scheme, **Green Revolution – Krishonnati Yojana** in agriculture sector beyond 12th Five Year Plan from 2017-18 to 2019-20 with a central outlay of Rs 33,269 crore till March 31, 2020. The Umbrella scheme comprises of 11 Schemes and Missions.
 - In 2017-18, it has been decided to club all these schemes / missions under one umbrella scheme 'Green Revolution - Krishonnati Yojana'.
 - The 11 merged schemes are: National Food Security Mission (NFSM), Mission for Integrated Development of Horticulture (MIDH), National Mission for Sustainable Agriculture (NMSA), Sub-Mission for Agriculture Extension (SMAE), Sub-Mission on Seeds and Planting Material (SMSP), Sub-Mission on Agricultural Mechanisation (SMAM) and Sub-Mission on Plant Protection and Plant Quarantine (SMPPQ).
-

➤ ***Mission to promote famed Lakadong turmeric***

- Meghalaya has launched Mission Lakadong to produce 50,000 metric

tonnes of the famous Lakadong turmeric per annum in the next five years.

- The mission (2018-2023) was launched with the objective of enhancing the livelihood of farmers and building the brand equity of the Lakadong variety.
- Lakadong is a village in the West Jaintia Hills.
- Lakadong Turmeric : Lakadong is a variety of turmeric. It is indigenous to the north eastern state of Meghalaya in India. Of the 11 districts of Meghalaya, lakadong grows in a small region called Jaintia Hills. Lakadong is renowned for its high curcumin content of upto 8%. Compared to usual varieties of turmeric with an active ingredient content of 1–3%, lakadong variety is far superior.

➤ ***NABARD got Adaptation Fund reaccreditation***

- National Bank for Agriculture and Rural Development (NABARD) has been reaccredited as National Implementing Entity (NIE) by the Adaptation Fund set up under the Kyoto Protocol of the United Nations Framework Convention on Climate Change (UNFCCC). The reaccreditation is till 26 December 2022.
- NABARD was first accredited as NIE for Adaptation Fund in July 2012 and is the only NIE for India. The NIEs are those national legal entities nominated by Parties (to the Kyoto Protocol) that are recognised by the Board as meeting the fiduciary standards established by the Board. The NIEs bear full responsibility for the overall management of the projects and programmes financed by the Adaptation Fund and have all financial, monitoring, and reporting responsibilities. With a view to generate feasible projects, various steps have been taken such as conducting of National Interface, state level workshops, capacity building of its own staff and partner institutions, partnership with national and international agencies etc.
- Ministry of Environment, Forest & Climate Change, Govt. of India is the National Designated Authority (NDA) for Adaptation Fund and proposals are submitted with endorsement of NDA.
- The **Adaptation Fund** was established in 2001 and officially launched in 2007 at COP 7 in Marrakech, Morocco. It is financing concrete projects and programmes that help vulnerable communities in developing countries that are Parties to the Kyoto Protocol to adapt to climate change. The Fund is financed in part by government and private donors,

and also from a two percent share of proceeds of Certified Emission Reductions (CERs) issued under the Protocol's Clean Development Mechanism (CDM) projects.

- The **Adaptation Fund** headquartered in **Washington, USA** is supervised and managed by the Adaptation Fund Board (AFB).

➤ ***PM launched National Nutrition Mission, and pan India expansion of Beti Bachao Beti Padhao***



- On the occasion of **International Women's Day on 8 March 2018**, the Prime Minister, Shri Narendra Modi launched the **National Nutrition Mission** and **Pan India Expansion of Beti Bachao Beti Padhao** (BBBP) covering all 640 districts of the Country at a mega event held at Jhunjhunu in Rajasthan.
- The **National Nutrition Mission (NNM)** has been set up with a three year budget of Rs. 9046.17 crore commencing from 2017-18. The NNM is a comprehensive approach towards raising nutrition level in the country on a war footing. It will comprise mapping of various Schemes contributing towards addressing malnutrition, including a very robust convergence mechanism, ICT based Real Time Monitoring system, incentivizing States/UTs for meeting the targets, incentivizing Anganwadi Workers (AWWs) for using IT based tools, eliminating

registers used by AWWs, introducing measurement of height of children at the Anganwadi Centres (AWCs), Social Audits, setting-up Nutrition Resource Centres, involving masses through Jan Andolan for their participation on nutrition through various activities, among others.

- NNM targets to reduce stunting, under-nutrition, anemia (among young children, women and adolescent girls) and reduce low birth weight by 2%, 2%, 3% and 2% per annum respectively. Although the target to reduce Stunting is at least 2% p.a., Mission would strive to achieve reduction in Stunting from 38.4% (NFHS-4) to 25% by 2022 (Mission 25 by 2022). More than 10 crore people will be benefitted by this programme. All the States and districts will be covered in a phased manner i.e. 315 districts in 2017-18, 235 districts in 2018-19 and remaining districts in 2019-20.

➤ ***HP Governor launched Zero Budget Natural Farming to promote organic farming***

- Himachal Pradesh Chief Minister Jai Ram Thakur launched the Zero Budget Natural Farming project with the motive that farmers of the state would adopt organic farming.
- The project was launched at Chaudhary Sarvan Kumar Himachal Pradesh Krishi Vishvavidyalay, Palampur.

Zero Budget Natural Farming :

- The programme is made of a set of natural farming methods under which the cost of growing and harvesting plants is zero.
- The programme is a bit different from organic farming as this practice believes more in natural growth of crops without adding any fertilizers and pesticides or any other foreign elements
- The programme involves almost no monetary investment and envisages the use of 'Jeevamrutha' and 'Beejamrutha'.
- '**Zero Budget**' refers to zero net cost of production of all crops, which means that farmers don't have to buy fertilizers and pesticides to ensure the healthy growth of crops
- The main objective of ZBNF is to eliminate the use of chemical pesticides and use biological pesticide instead
- The farmers are advised to use cow dung, urine, plants, human excreta, earthworms and similar biological fertilizers for crop protection

- The practices not only protect soil from degradation but also help in retaining soil fertility
- They also lower the cost of inputs of farmers and give better capacity to increase their income.

➤ ***Indian Seed Congress – 2019***

- Indian Seed Congress 2019, the ninth edition of the mega Seed Industry event went International for the first time and was organized in Hyderabad, India, on 11-12th March 2019.
- Theme of Seed Congress 2019 : “**Seeds for sustainability**”.
- The Indian Seed Congress is the annual forum organized by NSAI (National Seed Association of India), the apex organization representing the Indian Seed Industry.
- The Indian Seed Congress provides a platform for the Seed Industry to interact closely with technology developers, sector development officials and policy makers.



➤ ***India ranked 11th on Climate Change Performance Index 2019***



- India has ranked 11th out of 56 nations on Climate Change Performance Index (CCPI) 2019.
- India improved its performance in the Renewable Energy category, joining the group of medium performers.
- Comparatively low levels of per capita GHG emissions and a

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relatively ambitious mitigation target for 2030 give India an overall high rating in the emissions category.

- The publication was issued by Germanwatch and Climate Action Network Europe.
- The Climate Change Performance Index is an instrument designed to enhance transparency in international climate politics and aims to put political and social pressure on those countries which have, up until now, failed to take ambitious action on climate protection.

➤ ***Government launched e - RaKAM portal for selling agri produce***



- The government on 1 August 2017 launched a portal, e-RaKAM, to provide a platform to sell agricultural produce.
- E-RaKAM is a first-of-its-kind initiative that leverages technology to connect farmers of the smallest villages to the biggest markets of the world through internet and e-RaKAM centres.
- E-RaKAM is developed by MSTC Limited and supported by marketing & logistics partner CRWC Limited.
- E-RaKAM is a digital initiative bringing together the farmers, FPOs, PSUs, civil supplies and buyers on a single platform to ease the selling and buying process of agricultural products.
- Under this initiative, e-RaKAM centres are being developed in a phased manner throughout the country to facilitate farmers for online sale of their produce.

➤ ***PM Modi Inaugurated International Rice Research Centre In Varanasi***

- Prime Minister Narendra Modi on 29 December 2018 inaugurated the International Rice Research Institute's South Asia Regional Centre (ISARC) campus in Varanasi. The centre will serve as a hub for rice research and training in South Asia.
- It is the 6th IRRI SARC campus.



- The institute will help farmers of the region to develop varieties of paddy which grow in minimum water and have low sugar content and high nutritional value.
- India's association with the IRRI dates back to the 1960s. PM Modi was the first Indian prime minister to visit IRRI headquarters in Manila, Philippines in November 2017.
-

➤ ***Andhra Pradesh Banganapalle mangoes got GI tag***

- Banganapalle mangoes, one of the most popular and finest varieties of mango from Andhra Pradesh, has been given the Geographical Indication (GI) Registration Certificate by the GI Registry, Chennai.
- Once product is registered as GI, no producer can claim the same name, which is covered by a GI tag, without taking consent from the applicant. Banganapalle mangoes have been grown for over 100 years in Andhra Pradesh. It is also known as Beneshan, Baneshan, Benishan, Chappatai and Safeda.

➤ **PAU develops country's first Bt cotton varieties**

- Punjab Agricultural University in Ludhiana has developed country's first genetically-modified (Bt) varieties of cotton — the seeds of which could be reused by farmers, resulting in saving the repeated cost they have to bear every season.
- Indian Council of Agricultural Research (ICAR) has identified three Bt cotton varieties — namely PAU Bt 1, F1861 and RS 2013 — for cultivation in states of Punjab, Haryana and Rajasthan.
- PAU Bt 1 and F 1861 were developed by PAU, whereas, RS 2013 was developed at Rajasthan Agricultural University (RAU), Bikaner.
- While the PAU Bt 1 was completely developed at Punjab Agricultural University, the F 1861 and RS 2013 varieties were converted to Bt version by Central Institute for Cotton Research (CICR), Nagpur. All the three varieties carry "cry1Ac" gene imparting resistance against bollworm complex

➤ **e - pashuhaat portal**

(www.epashuhaat.gov.in) launched



- The then Union Agriculture & Farmers Welfare Minister, Shri Radha Mohan Singh launched e-pashuhaat portal (www.epashuhaat.gov.in) on the occasion of **National Milk Day (26 November 2016)**.
- For the first time in the world under the scheme National Mission on Bovine Productivity 'e-pashuhaat' portal has been developed for connecting breeders and farmers regarding availability of

bovine germplasm.

- Through the portal breeders/farmers can sell and purchase breeding stock, information on all forms of germplasm including semen, embryos and live animals with all the agencies and stake holders in the country has been uploaded on the portal.
- Through this portal, farmers will be aware about the availability of quality disease free bovine germplasm with different agencies in the country.

e-pashuhaat – Web Portal – Aims and Objectives :

- E-Trading Market portal for livestock germplasm and additional related services.
- Will connect farmers with breeders - Central, State, Co-operative, Milk Federations, and private agencies.
- Real time authentic certified information on availability of germplasm.

➤ ***The first ever All India Institute of Ayurveda dedicated to the Nation***

- The Prime Minister, Shri Narendra Modi, on 17 October 2017 dedicated the All India Institute of Ayurveda, in New Delhi, to the Nation. The first ever All India Institute of Ayurveda (AIIA) is set up along the lines of AIIMS.
- As an apex institute under the Ministry of AYUSH, the AIIA will bring synergy between the traditional wisdom of Ayurveda and modern diagnostic tools and technology.
- The first Ayurveda Day was celebrated on 28 October 2016.

➤ ***PM Modi launched e-NAM - the e-trading platform for National Agriculture Market***

- The Prime Minister, Shri Narendra Modi, launched the pilot of e-NAM - the e-trading platform for the National Agriculture Market on 14 April 2016.



- This project will operate through an online portal which is being linked to the mandis of the States. Its software will be provided to all the willing states without cost.
- Under this Project, Government of India is providing a grant of Rs. 30 lacs to the proposed agriculture mandis of the states.
- The farmers will be provided “farmer helpline services round the clock” for obtaining information related to this portal.
- The Govt. will link additionally 200 wholesale mandis to eNAM in 2018-19. At present, 585 regulated mandis in 14 states are linked with eNAM.

➤ ***Sikkim becomes India's first organic state***

- Sikkim has become India's first fully organic state by implementing organic practices on around 75,000 hectares of agricultural land.
- With a population of around six lakhs, the state also known as the Land of Flower.
- Sikkim is also known as Orchid state of India, Paradise of the Botanist, Land of Flowers.

What is Organic cultivation ?

- Organic cultivation is free of chemical pesticides and chemical fertilisers as it tries to strike a harmonious balance with a complex series of ecosystems.

Other Major Schemes/Programmes/ Missions of GoI on Agriculture Sector

➤ **Soil Health Card Scheme**

- Launched in Feb., 2015.
- PM gives slogan: “**Swasth Dharaa. Khet Haraa.**” – Healthy Earth. Green Farm.
- Soil Health Card will provide information to farmers on soil nutrient status of their soil and recommendation on appropriate dosage of nutrients to be applied for improving soil health and its fertility.
- In the first phase (2015-17) 100 million SHCs have been distributed so far. The aim of the Ministry is to provide SHC to all 120 million farm holdings by December, 2017. The second phase began on May 1, 2017, and will continue for the year 2017 to 2019.
- It will be made available once in a cycle of 3 years, which will indicate the status of soil health of a farmer’s holding for that particular period. The SHC given in the next cycle of 3 years will be able to record the changes in the soil health for that subsequent period.
- It is a Government of India’s scheme promoted by the Department of Agriculture & Co-operation under the Ministry of Agriculture. It will be implemented through the Department of Agriculture of all the State and Union Territory Governments.
- In all, 10.73 crore Soil Health Cards have been distributed during Cycle-I (2015-17) whereas 4.71 crore Soil Health Cards have been distributed to the farmers across the country during Cycle-II (2017-19).



What is a Soil Health Card ?

- SHC is a printed report that a farmer will be handed over for each of his holdings. It will contain the status of his soil with respect to 12 param

eters, namely N, P, K (Macro-nutrients); S (Secondary-nutrient) ; Zn, Fe, Cu, Mn, Bo (Micro-nutrients); and pH, EC, OC (Physical parameters). Based on this, the SHC will also indicate fertilizer recommendations and soil amendment required for the farm.

What are the norms of sampling ?

- Soil samples will be drawn in a grid of 2.5 ha in irrigated area and 10 ha in rain-fed area with the help of GPS tools and revenue maps.
-

➤ Kisan Credit Card

- The Kisan Credit Card (KCC) scheme is a credit scheme introduced in August 1998 by Indian banks.
- This model scheme was prepared by the National Bank for Agriculture and Rural Development (**NABARD**) on the recommendations of **R.V.Gupta committee** to provide term loans and agricultural needs.
- Its objective is to meet the comprehensive credit requirements of the agriculture sector by giving financial support to farmers. Participating institutions include all commercial banks, Regional Rural Banks, and state co-operative banks.
- The scheme has short term credit limits for crops, and term loans. KCC credit holders are covered under personal accident insurance up to Rs. 50,000 for death and permanent disability, and up to Rs. 25,000 for other risk. The premium is borne by both the bank and borrower in a 2:1 ratio.
- The validity period is five years, with an option to extend for up to three more years. Kisan Credit Card (KCC) offering credit to the farmers in two types viz, 1. Cash Credit 2. Term Credit (for allied activities such as pump sets, land development, plantation, drip irrigations).

Insurance Under KCC Kisan Credit

- Card holders are covered by a personal accident insurance. This cover is available when the person enters the scheme. The cover is as follows:
Death : Rs. 50,000
Disability: Rs 25000
Maximum Age to enter : 70 years
Interest and other charges on Kisan Credit Cards
- The interest rates on Kisan Credit Cards varies from bank to bank and

also on borrowing limits. Generally, 9% per annum interest rate is charged for KCC borrowing limit up to Rs. 3 Lakh. However, central government provides interest subvention to the financing institutions. If the track record of the card holder is good; a further 2% interest subsidy is provided. After three years sound track record, a card holder can also get the credit limit enhanced.

➤ **Pradhan Mantri Fasal Bima Yojana**



- The Pradhan Mantri Fasal Bima Yojna was launched on 18th February 2016 by Prime Minister Shri Narendra Modi.
- PMFBY provides a comprehensive insurance cover against failure of the crop thus helping in stabilising the income of the farmers. The Scheme covers all Food & Oilseeds crops and Annual Commercial/ Horticultural Crops for which past yield data is available and for which requisite number of Crop Cutting Experiments (CCEs) are conducted being under General Crop Estimation Survey (GCES).

Highlights of the scheme

- There will be a uniform premium of only 2% to be paid by farmers for all Kharif crops and 1.5% for all Rabi crops. In case of annual commercial and horticultural crops, the premium to be paid by farmers will be only 5%. The premium rates to be paid by farmers are very low and balance premium will be paid by the Government to provide full insured amount to the farmers against crop loss on account of natural calamities.
- There is no upper limit on Government subsidy. Even if balance premium is 90%, it will be borne by the Government.

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- Earlier, there was a provision of capping the premium rate which resulted in low claims being paid to farmers. This capping was done to limit Government outgo on the premium subsidy. This capping has now been removed and farmers will get claim against full sum insured without any reduction.
- Government has modified operational guidelines for Pradhan Mantri Fasal Bima Yojna (PMFBY) which is being implemented from 1st of October, 2018.

New provisions in the operational guidelines of PMFBY

- Provision of Penalties/ Incentives for States, Insurance Companies (ICs) and Banks i.e. 12% interest rate to be paid by the Insurance Company to farmers for delay in settlement claims beyond two months of prescribed cut off date. Similarly, State Govt. have to pay 12% interest rate for delay in release of State share of Subsidy beyond three months of prescribed cut off date/submission of requisition by Insurance Companies.
- More time to insured farmer to intimate individual claims – 72 hours (instead of 48 hours) through any stakeholders and directly on portal.
- In August 2018, Government has appointed senior bureaucrat Ashish Kumar Bhutani as Chief Executive Officer (CEO) of Pradhan Mantri Fasal Bima Yojana (PMFBY). He has been appointed to post till May 2020.

➤ *Paramparagat Krishi Vikas Yojana (April, 2015)*

- “Paramparagat Krishi Vikas Yojana” is an elaborated component of Soil Health Management (SHM) of major project National Mission of Sustainable Agriculture (NMSA).
- Under PKVY **Organic farming is promoted** through adoption of organic village by cluster approach and PGS certification.
- Fifty or more farmers will form a cluster having 50 acre land to take up the organic farming under the scheme. In this way during three years 10,000 clusters will be formed covering 5.0 lakh acre area under organic farming.
- Every farmer will be provided **Rs. 20,000 per acre in three years** for seed to harvesting of crops and to transport produce to the market.

The Scheme envisages :

- Promotion of commercial organic production through certified organic farming.
- The produce will be pesticide residue free and will contribute to improve the health of consumer.
- It will raise farmer's income and create potential market for traders.
- It will motivate the farmers for natural resource mobilization for input production.

➤ ***Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)***

- It is a national mission to improve farm productivity and ensure better utilization of the resources in the country.
- The primary objectives of PMKSY are to attract investments in irrigation system at field level, develop and expand cultivable land in the country, enhance ranch water use in order to minimize wastage of water, enhance crop per drop by implementing water-saving technologies and precision irrigation.
- PMKSY has been formulated amalgamating ongoing schemes viz. Accelerated Irrigation Benefit Programme (AIBP) of the Ministry of Water Resources, River Development & Ganga Rejuvenation (MoWR, RD&GR), Integrated Watershed Management Programme (IWMP) of Department of Land Resources (DoLR) and the On Farm Water Management (OFWM) of Department of Agriculture and Cooperation (DAC).
- PMKSY has been approved for implementation across the country with an outlay of Rs. 50,000 crore in five years.
- Priority is given to projects which are already close to completion so that farmer can get immediate benefit.
- Farmers can use drip and sprinkler micro irrigation system.
- Farmers can get more details on drip/sprinkler irrigation techniques from their District Agriculture / Horticulture Officer.

➤ ***Mission for Integrated Development of Horticulture (MIDH) (2014-15)***

- Centrally Sponsored Scheme of MIDH has been launched for the holistic development of horticulture in the country during XII plan.
- Mission for Integrated Development of Horticulture (MIDH) is a Centrally Sponsored Scheme for the holistic growth of the horticulture sector covering fruits, vegetables, root & tuber crops, mushrooms, spices, flowers, aromatic plants, coconut, cashew, cocoa and bamboo.
- While Government of India (GOI) contributes 85% of total outlay for developmental programmes in all the states except the states in North East and Himalayas, 15% share is contributed by State Governments.
- In the case of North Eastern States and Himalayan States, GOI contribution is 100%. Similarly, for development of bamboo and programmes of National Horticulture Board (NHB), Coconut Development Board (CDB), Central Institute for Horticulture (CIH), Nagaland and the National Level Agencies (NLA), GOI contribution will be 100%.
- Sub-schemes and area of operation

Sub Scheme Target group / area of op.

- | Sub Scheme | Target group / area of op. |
|--|--|
| 1. National Horticulture Mission (NHM) (2005-06) | All states & UTs except states in NE and Himalayan Region. |

The rate of assistance is 50% subject to maximum of Rs. 15000/ per ha limited to 2 ha per beneficiaries.

- | | |
|---|---|
| 2. Horticulture Mission for North East & Himalayan States (HMNEH) | All states in NE and Himalayan Region -
Arunachal Pradesh,
Assam, Manipur,
Mizoram, Nagaland,
Meghalaya, Sikkim,
Tripura, Himachal |
|---|---|

	Pradesh, Uttarakhand and Jammu & Kashmir
3. National Bamboo Mission (NBM)	All states & UTs
4. National Horticulture Board (NHB)	All states & UTs focusing on commercial horticulture
5. Coconut Development Board (CDB)	All States and UTs where coconut is grown
6. Central Institute for Horticulture (CIH)	NE states, focusing on HRD and capacity building.

➤ ***National Mission for Sustainable Agriculture (NMSA)***

- National Mission for Sustainable Agriculture (NMSA) has been formulated for enhancing agricultural productivity especially in rainfed areas focusing on integrated farming, water use efficiency, soil health management and synergizing resource conservation.
- NMSA derives its mandate from Sustainable Agriculture Mission which is one of the eight Missions outlined under National Action Plan on Climate Change (NAPCC).
- Accorded 'in principle' approval by Prime Minister's Council on Climate Change (PMCCC) on 23.09.2010.
- It seeks to transform Indian agriculture into a climate resilient production system through suitable adaptation and mitigation measures in domains of both crops and animal husbandry.
- NMSA identifies 10 key dimensions namely
seed & culture water, pest, nutrient, farming practices, credit, insurance, market, information and livelihood diversification for promoting suitable agricultural practices that covers both adaption and mitigation measures through four functional areas, namely, Research and Development, Technologies, Products and Practices, Infrastructure and Capacity building.

Mission Components

- Rainfed Area Development (RAD)
 - On Farm Water Management (OFWM)
 - Soil Health Management (SHM)
 - Climate Change and Sustainable Agriculture : Monitoring, Modeling and Networking (CCSAMMN)
-

➤ ***National Food Security Mission***

- GoI has launched the Centrally Sponsored Scheme, 'National Food Security Mission' in October 2007.
 - The Mission is being continued during 12th Five Year Plan with new targets of additional production of food grains of 25 million tons of food grains comprising of 10 million tons rice, 8 million tons of wheat, 4 million tons of pulses and 3 million tons of coarse cereals by the end of 12th Five Year Plan.
 - Major Components of NFSM
 1. National Food Security Mission – Rice (NFSM-Rice)
 2. National Food Security Mission – Wheat (NFSM-Wheat)
 3. National Food Security Mission – Pulses (NFSM-Pulses)
 4. National Food Security Mission – Coarse cereals (NFSM-Coarse cereals)
 5. National Food Security Mission – Commercial crops (NFSM-Commercial crops)
 - **Funding pattern** : From the year 2015-16, the mission is being implemented on 60 : 40 sharing pattern between Centre and State Governments and on 90 : 10 sharing pattern between Centre and Northeastern & 3 Hill states.
-

➤ ***National Food Security Act, 2013***

- The National Food Security Act, 2013 (also Right to Food Act) is an Act of the Parliament of India which aims to provide subsidized food grains to approximately two thirds of India's population.
- It was signed into law on 12 September 2013, retroactive to 5 July 2013.

- **Salient features :**

- 75% of rural population and 50% of the urban population are entitled for three years from enactment to 5 kilograms food grains per person per month at Rs. 3, Rs. 2, Rs. 1 (1.5¢ US) per kg for rice, wheat and coarse grains (millet), respectively;
- **Women Empowerment :** Eldest woman of the household of age 18 years or above to be the head of the household for the purpose of issuing of ration cards.
- **Nutritional Support to women and children :** Pregnant women and lactating mothers and children in the age group of 6 months to 14 years will be entitled to meals as per prescribed nutritional norms under Integrated Child Development Services (ICDS) and Mid-Day Meal (MDM) schemes. Higher nutritional norms have been prescribed for malnourished children upto 6 years of age.
- **Maternity Benefit :** Pregnant women and lactating mothers will also be entitled to receive maternity benefit of not less than Rs. 6,000.
- **Food Security Allowance :** Provision for food security allowance to entitled beneficiaries in case of non-supply of entitled foodgrains or meals.
- The existing Antyodaya Anna Yojana (AAY) households, which constitute the poorest of the poor, will continue to receive **35 Kgs of foodgrains per household per month.**
- The Act also contains provisions for setting up of grievance redressal mechanism at the District and State levels. Separate provisions have also been made in the Act for ensuring transparency and accountability.
- **Cost of intra-State transportation & handling of foodgrains and FPS Dealers' margin :** Central Government will provide assistance to States in meeting the expenditure incurred by them on transportation of foodgrains within the State, its handling and FPS dealers' margin as per norms to be devised for this purpose.
- **Penalty :** Provision for penalty on public servant or authority, to be imposed by the State Food Commission, in case of failure to comply with the relief recommended by the District Grievance Redressal Officer.

➤ ***Bringing Green Revolution to Eastern India***

- The programme of “Bringing Green Revolution to Eastern India (BGREI)” was launched in 2010-11 to address the constraints limiting the productivity of “rice based cropping systems” in eastern India comprising seven (7) States namely; Assam, Bihar, Chhattisgarh, Jharkhand, Odisha, Eastern Uttar Pradesh (Purvanchal) and West Bengal.
- **The programme is now a sub-scheme of Rashtriya Krishi Vikas Yojana.**

– **Objectives**

- To increase production & productivity of rice and wheat by adopting latest crop production technologies;
 - To promote cultivation in rice fallow area to increase cropping intensity and income of the farmers;
 - To create water harvesting structures and efficient utilization of water potential; and
 - To promote post harvest technology and marketing support.
-

➤ ***Rashtriya Krishi Vikas Yojana***

- It was launched in 2007-08 wherein funds are provided as a 100 per cent grant to states to choose projects specifically tailored to their condition for enhancing growth in agriculture and allied sectors.
- Cabinet Committee on Economic Affairs on 1 November, 2017 approved the continuation of Rashtriya Krishi Vikas Yojana (RKVY) for three years — 2017-18 to 2019-20 — renaming it as Rashtriya Krishi Vikas Yojana-Remunerative Approaches for Agriculture and Allied sector Rejuvenation (RKVY-RAFTAAR).
- The scheme is being implemented on a 90 : 10 sharing basis between the Centre and the states in the 8 North Eastern and 3 Himalayan states, and in 60 : 40 ratio in all the other states from 2015-16 as against the 100 per cent funding provided by the Centre till 2014-15.

- Sub-schemes : During 2015-16, 5 special programmes/schemes has been implemented as sub-schemes of RKVY :
 - i) Bringing Green Revolution to Eastern India (BGREI)
 - ii) Crop Diversification Programme
 - iii) Saffron Mission - Economic Revival of J&K Saffron
 - iv) Vidarbha Intensive Irrigation Development Project (VIIDP)
 - v) Additional Fodder Development Programme.
-

➤ ***National Livestock Mission***

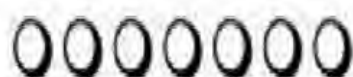
- The National Livestock Mission was launched in 2014-15 during the Twelfth Plan to bring about sustainable and continual development in the livestock sector by emulating the success achieved in the dairy and poultry sectors across species and regions.
 - It has four Sub-Missions :
 - I. Sub-Mission on Livestock Development.
 - II. Sub-Mission on Pig Development in the North Eastern Region
 - III. Sub-Mission on Fodder and Feed Development
 - IV. Sub-Mission on Skill Development, Technology Transfer and Extension
-

➤ ***National Mission on Oilseeds and Oil Palm (NMOOP)***

- The Centrally Sponsored Scheme of Integrated Scheme of Oilseeds, Oil Palm and Maize (ISOPOM) was launched in 2004-05 and remained under implementation till March, 2014, Oil Palm Area Expansion (OPAE) programme, a sub-scheme of RKVY implemented during 2011-12 to 2013-14.
- The scheme of ISOPOM, Tree Borne Oilseeds (TBOs) and Oil Palm Area Expansion (OPAE) programme have been **restructured into National Mission on Oilseeds and Oil Palm (NMOOP)** during 12th Plan and launched during 2014-15 and are implemented in 28 States.

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- The sharing pattern of NMOOP between GOI and States is 60 : 40 for general states and 90:10 for NE and hilly states.
- Few components especially seed production & distribution, minikit of oilseeds for farmers, R&D support, FLDs by KVKs/ICAR etc. are on 100% funding for Central Agencies and ICAR/SAUs.
- The production of oilseeds has increased to 25.30 million tonnes in 2015-16. The yield of oilseeds increased to 968 kg per hectare in 2015-16 (as per 4th Advance Estimates).
- National Mission on Oilseeds and Oil Palm (NMOOP) comprises of three Mini Missions (MM) one each for Oilseeds (MM-I), Oil Palm (MM-II) and Tree Borne Oilseeds (MM-III).



Current Affairs

(World Agricultural Development)

➤ *World Cotton Day : 7 October 2019*



- The first-ever World Cotton Day (WCD) was hosted by the World Trade Organization (WTO) in Geneva on October 7, 2019. The international day aims to celebrate the advantages of cotton, ranging from its qualities as a natural fibre to the benefits people obtain from its production, transformation, trade and consumption.
- World Cotton Day also aims to highlight the challenges faced by the world's cotton economies, as cotton is significant for the least developed, developing and developed economies worldwide.

Background

- The World Trade Organisation organized the World Cotton Day event at the request of four cotton countries- Burkina Faso, Benin, Chad and Mali to recognize their application to the United Nations to establish October 7 as World Cotton Day.

➤ ***Global Report on Food Crisis 2019***



- A report 'Global Report on Food Crisis 2019' was presented jointly by the European Union, the Food and Agriculture Organization of the United Nations (FAO), and the UN World Food Programme (WFP)

Key findings in the latest report:

- Approximately 113 million people in 53 countries experienced high levels of food insecurity in 2018, compared to 124 million in 2017. These crises are primarily driven by conflict and climate-related disasters.
- The number going chronically-hungry has remained well over 100 million over the past three years, with the number of countries affected, rising.
- According to the report, nearly two-thirds of those facing acute hunger come from just eight countries: Afghanistan, the Democratic Republic of the Congo, Ethiopia, Nigeria, South

Sudan, Sudan, Syria and Yemen.

- Climate and natural disasters pushed another 29 million people into acute food insecurity in 2018 and that number excludes 13 countries – including North Korea and Venezuela – because of data gaps.

About FAO:

- The Food and Agriculture Organization (FAO) is a specialized agency of the United Nations that leads international efforts to defeat hunger.
- Headquarters: Rome, Italy
- Founded: 16 October 1945
- Goal of FAO: Their goal is to achieve food security for all and make sure that people have regular access to enough high-quality food to lead active, healthy lives.

➤ ***7 June: 1st World Food Safety Day observed***



- The World Food Safety Day 2019 was observed on 7 June with the theme- '**Food Safety, everyone's business**'.
- It was the first ever World Food Safety Day.

Key Highlights

- **Background:** The WFS day was facilitated by World Health Organisation (WHO) in collaboration with the Food and Agriculture Organization (FAO) of United Nations (UN). This day

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was instituted by United Nations General Assembly (UNGA) by adopting a resolution for effect in December 2018 with an aim to highlight importance of safe food and to reduce problems related to it.

- **Objective:** By observing World Food Safety Day, WHO pursues its efforts of mainstreaming food safety in public agenda and reducing burden of foodborne diseases globally.

Food Safety

- According to WHO data, almost 1 in 10 people in the world fall ill after eating contaminated, with almost 1,25,000 deaths of children under 5 years. Around 600 million annual cases of the foodborne disease have been reported every year. The development of many low-and middle-income economies is hindered due to unsafe food. As result, these countries lose around US\$ 95 billion in productivity associated with illness, disability, and premature death suffered by workers.

Initiatives in India

- On occasion of first-ever World Food Safety Day, Union Minister of Health launched various initiatives such as-
- **State Food Safety Index (SFSI):** The Food Safety and Standards Authority of India (FSSAI), under Ministry of Health & Family Welfare, has developed first State Food Safety Index (SFSI) to measure performance of States on five parameters of food safety. This is an effort of ministry to motivate states to work towards ensuring safe food for citizens.
- **Raman 1.0:** It is hand-held battery operated equipment that performs rapid detection, in less than a minute of economically driven adulteration in fats, ghee and edible oils.
- **Food Safety Magic Box:** It is do-it-yourself food testing kit comprising of a manual and equipment to check for food adulterants. This can serve as innovative solution to take food safety to schools.
- **Eat Right Awards:** instituted by FSSAI, with aim to recognize contributions made by food companies and individuals to empower citizens to choose safe and healthy food options so as to improve their health and well-being.

➤ ***World Pulses Day-2019***



- February 10, 2019, was celebrated as the first World Pulses Day. The Year 2016 was celebrated as International Year of Pulses to highlight the contribution of Pulses to sustainable food production and towards food security and nutrition.
- Pulses are the edible seeds of plants in the legume family. Pulses grow in pods and come in a variety of shapes, sizes and colors.

➤ ***Organics and Millets International Trade Fair 2019 held in Bengaluru***

- The Organics and Millets 2019, International Trade Fair was held in Bengaluru from Jan 18-20, 2019 at the Bengaluru Palace.



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- This event was organized by the Dept. of Agriculture, Govt. of Karnataka, in collaboration with KAPPEC as the Nodal agency, International Competence Centre of Organic Agriculture (ICCOA) as the Knowledge Partner, and MCA as the Event Partner.
 - **Theme:** K Source, lauding the state of Karnataka as the source of Next Gen Smart Foods.
-

➤ **2 Feb: World Wetlands Day**

The World Wetland Day (WWD) is observed every year on 2 February to raise awareness about the value of wetlands for humanity and the planet.

2018 theme "**Wetlands for a Sustainable Urban Future**".

2019 theme "Wetlands and Climate Change".

**World
Wetlands Day**
2 February 2019



Wetlands and
climate change

➤ **Sugarcane juice declared 'national drink' of Pakistan**

- The Pakistan government declared sugarcane juice as the "national drink" of the country.
 - The announcement came after the government conducted a Twitter poll where people were asked to decide on the country's national drink with two other options - orange and carrot - besides sugarcane.
-

➤ **FAO approves 2023 as International Year of Millets**

- The UN Food and Agriculture Organisation (FAO) has decided to observe **2023 as the International Year of Millets**, upon the request from the Indian government.
- This decision was taken at the 160th session of FAO Council, in Rome, which also approved India's membership to the Executive Board of the

World Food Program (WFP) for 2020 and 2021.

- The Union Minister of Agriculture and Farmers' Welfare, Radha Mohan Singh on August 16, 2018 wrote to Jose Graziano da Silva, the Director General of the United Nations Food and Agriculture Organisation (UNFAO) to declare the 2019 as the 'International Year of Millets'.
 - Millets consist of Jowar, Bajra, Ragi and minor millets, together termed as nutri-cereals.
-

➤ ***United Nations Climate Change Conference 2018***

- The 2018 United Nations Climate Change Conference is the 24th Conference of the Parties to the United Nations Framework Convention on Climate Change (**COP24**), also known as the Katowice Climate Change Conference.
- It was held between 2 and 15 December 2018 in **Katowice, Poland**. The conference agreed on rules to implement the 2015 Paris Agreement.



COP24 · KATOWICE 2018
UNITED NATIONS CLIMATE CHANGE CONFERENCE

Result

- The conference agreed on rules to implement the Paris Agreement, which will come into force in 2020, that is to say the rulebook on how governments will measure, and report on their emissions-cutting efforts.
- **UNFCCC** : The UNFCCC is a "Rio Convention", one of three adopted at the "Rio Earth Summit" in 1992. The UNFCCC entered into force on 21 March 1994.
- **COP** : The Conference of the Parties (COP) is the supreme body of the UNFCCC Convention. It consists of the representatives of the Parties to the Convention. It holds its sessions every year. The COP takes decisions which are necessary to ensure the effective implementation of the provisions of the Convention and regularly reviews the implementation of these provisions.

➤ ***Rattan Lal honoured with Glinka World Soil Prize 2018***

- **Rattan Lal**, a distinguished university professor of soil science at the Ohio State University, has won the **Glinka World Soil Prize 2018** in a ceremony at the Rome headquarters of the UN's Food and Agriculture Organization (FAO) for his outstanding contribution to sustainable soil management.
- Lal, the President of the International Union of Soil Science (IUSS), was recognised on the World Soil Day for his outstanding contribution to sustainable soil management and the protection of soil resources.
- The Glinka World Soil Prize, named after the pioneering Russian scientist Konstantin D. Glinka, is considered the highest honour in the soil science profession.
- Lal was born in Gujranwala in West Punjab, Pakistan, and his family came to India as refugees in 1948. He studied in India and later came to the US to work on his doctorate in soils, which he completed in 1968.
- He has been listed among the World's Most Influential Scientific Minds (2012) and among the top one per cent of all researchers in agriculture.

➤ ***World Soil Day : 5 December 2018***



- The World Soil Day was observed across the world on December 5, 2018. The day is observed annually to highlight the importance of healthy soil and advocate for the sustainable management of soil resources.

- 2018 Theme: The theme of the day this year is '**Be the Solution to Soil Pollution**'. The campaign aims to raise awareness regarding soil pollution and call people to #StopSoilPollution.
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➤ ***Changsha Declaration on Global South-South Cooperation in Agriculture***

- On 2 November 2018, the Ministerial Forum on Global South-South Cooperation in Agriculture (MFASSC) was held in Changsha, Hunan.
- The forum was organized by the Ministry of Agriculture and Rural Affairs of the People's Republic of China and the United Nations Food and Agriculture Organization (FAO).
- This was held under the theme, "2030 Sustainable Development Goals: New Opportunities for Global South-South Cooperation in Agriculture" to stamp out poverty and hunger.
- During the forum, the Changsha Declaration on Global South-South Cooperation in Agriculture was adopted.
- The Changsha Declaration, formalized in the held forum, sets out plans to include South-South cooperation principles into national policies and programmes, and was agreed to by 26 countries and 11 international organizations.

South-South cooperation (SSC):

- In 1974, the United Nations General Assembly endorsed the establishment of a special unit within the United Nations Development Programme – United Nations Office for South-South Cooperation (UNOSSC).
 - South-South cooperation is a broad framework for collaboration among countries of the South in the political, economic, social, cultural, environmental and technical domains.
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➤ ***World Food Day 2019 : 16 October***



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- World Food Day is celebrated every year around the world on 16 October in honor of the date of the founding of the Food and Agriculture Organization of the United Nations in 1945. The day is celebrated widely by many other organizations concerned with food security, including the World Food Programme and the International Fund for Agricultural Development.
 - World Food Day theme for 2019 was **"Our Actions Are Our Future. Healthy Diets for A #ZeroHunger World"**.
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➤ **World Coconut Day 2019 : 2 September**

- The World Coconut Day (WCD) is observed every year on September 2 to enhance coconut farming with focus on productivity and product diversification.
 - The day is also celebrated to commemorate the formation day of Asian Pacific Coconut Community (APCC).
 - In India, the day is celebrated every year under the aegis of Coconut Development Board (CDB) in various coconut growing states across the country.
 - The 2019 theme is **"Coconut for family Wellness"**.
 - **APCC** : The Asian and Pacific Coconut Community is an intergovernmental organisation of states in Asia-Pacific that produce coconuts. The purpose of the APCC is "to promote, coordinate and harmonize all activities of the coconut industry". In Bangkok on 12 December 1968, the Agreement establishing the Asian Coconut Community was concluded and signed by India, Indonesia, and the Philippines. After the treaty was ratified by these states, the Asian Coconut Community came into existence on 9 September 1969 with headquarters in Jakarta.
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➤ **World Water Day : 22 March, 2019**



- World Water Day, on 22 March every year, is about focusing attention on the importance of water.
- The theme for World Water Day 2019 is '**Leaving no one behind**'.
- The theme for World Water Day 2018 was '**Nature for Water**' – exploring nature-based solutions to the water challenges we face in the 21st century.
- **World Water Day** is celebrated around the world with a variety of events. These can be educational, theatrical, musical or lobbying in nature. The day can also include campaigns to raise money for water projects. The first World Water Day, designated by the United Nations, was commemorated in 1993.
- Previous themes for the years 2015 to 2017 were "Water and Sustainable Development", "Water and Jobs" and "Why waste water?" (which included aspects of wastewater and reuse). The focus on universal access to clean water, sanitation and hygiene (WASH) is in line with the targets of Sustainable Development Goal 6.
- The UN World Water Development Report is released each year around World Water Day.

➤ ***First SAARC Agri Cooperative Business Forum held in Kathmandu, Nepal***

- The first South Asian Association for Regional Cooperation (SAARC) Agri Cooperative Business Forum was held in Kathmandu, Nepal.



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- Theme : 'Organizing and Strengthening Family Farmers' Cooperatives to attain the Sustainable-Development-Goals-1 and 2 in South Asia'.
 - It was co-organized by Food and Agriculture Organization (FAO) of United Nations and Asian Farmers' Association with the support from International Fund for Agricultural Development.
 - The South Asian Association for Regional Cooperation (SAARC) is the regional intergovernmental organization and geopolitical union of nations in South Asia. Its member states include Afghanistan, Bangladesh, Bhutan, India, Nepal, the Maldives, Pakistan and Sri Lanka.
 - SAARC was founded in Dhaka on 8 December 1985. Its secretariat is based in Kathmandu, Nepal.
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➤ ***11th Global Forum for Food & Agriculture held in Berlin***

GLOBAL FORUM FOR FOOD AND AGRICULTURE

- The 11th edition of Global Forum for Food & Agriculture (GFFA) was held in Berlin, Germany from 17th - 19th January 2019.
- Theme – "Agriculture Goes Digital – Smart Solutions for Future Farming".
- The **Global Forum for Food and Agriculture (GFFA)** is an international conference that focuses on central questions concerning the future of the global agri-food industry. It gives representatives from the worlds of politics, business, science and civil society an opportunity to share ideas and enhance understanding on a selected topic of current agricultural policy.

➤ ***Rice Field laboratory in Manila named after PM Modi***

- Prime Minister Narendra Modi visited the International Rice Research Institute (IRRI) in Los Banos, Philippines and inaugurated 'Shri Narendra Modi Resilient Rice Field Laboratory'.
- He also presented two Indian rice seed varieties to the IRRI gene bank.
- IRRI : The International Rice Research Institute (IRRI) is an international agricultural research and training organization with headquarters in Los Baños, Laguna in the Philippines.
- IRRI is known for its work in developing rice varieties that contributed to the Green Revolution in the 1960s which preempted the famine in Asia.

➤ ***World Sustainable Development Summit 2019 held in New Delhi***



- The 2019 edition of World Sustainable Development Summit (WSDS 2019) was held in New Delhi. It was inaugurated by Vice President of India, Shri M. Venkaiah Naidu.
- It was organized by the Energy and Resources Institute (TERI).
- **The 2019 theme, 'Attaining the 2030 Agenda: Delivering on our Promise'.**
- The Energy and Resources Institute's (TERI's) annual event, the Delhi Sustainable Development Summit (DSDS), has been rebranded to World Sustainable Development Summit (WSDS).

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- The WSDS brings together Nobel laureates, political leaders, decision-makers from bilateral and multilateral institutions, business leaders, high-level functionaries from the diplomatic corps, scientists and researchers, media personnel, and members of civil society; to deliberate on issues related to sustainable development.
 - Post the adoption of the Sustainable Development Goals and the signing of the Paris Agreement, the WSDS aims to provide long-term solutions for the benefit of the global community by assembling the various stakeholders on a single platform.
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➤ *International Day of Rural Women : 15 October*

- 2019 Theme: “Rural Women & Girls Building Climate Resilience”.
 - 2018 Theme: “Sustainable infrastructure, services and social protection for gender equality and the empowerment of rural women and girls ”
 - The United Nations’ (UN) International Day of Rural Women celebrates and honors the role of rural women on October 15 each year. It recognizes rural women’s importance in enhancing agricultural and rural development worldwide.
 - The first International Day of Rural Women was observed on October 15, 2008. This day recognizes the role of rural women, including indigenous women, in enhancing agricultural and rural development, improving food security and eradicating rural poverty.
 - The idea of honoring rural women with a special day was put forward at the Fourth World Conference on Women in Beijing, China, in 1995. It was suggested that October 15 be celebrated as “World Rural Women’s Day,” which is the eve of World Food Day, to highlight rural women’s role in food production and food security. “World Rural Women’s Day” was previously celebrated across the world for more than a decade before it was officially a UN observance.
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➤ *World Meteorological Day 23 March 2019*

- Every 23 March, the World Meteorological Organization

commemorates the coming into force of the Convention establishing the World Meteorological Organization on 23 March 1950.

- It showcases the essential contribution of National Meteorological and Hydrological Services to the safety and wellbeing of society and is celebrated with activities around the world. The themes chosen for World Meteorological Day reflect topical weather, climate or water-related issues.

Themes :

- **2019: "The Sun, the Earth and the Weather"**
 - 2020: "Climate and Water", which will align with the theme of World Water Day 2020, focusing on climate change and water
 - 2021 (proposed): "The ocean, our climate and weather" in conjunction with the launch of the United Nations Decade of Ocean Science for Sustainable.
 - The World Meteorological Organization (WMO) is an intergovernmental organization with a membership of 193 Member States and Territories. It originated from the International Meteorological Organization (IMO), the roots of which were planted at the 1873 Vienna International Meteorological Congress.
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➤ ***International Years by UN***

- The United Nations (UN) dedicates an entire calendar year to focus on particular topics or themes. Many countries actively participate in promoting these years.
 - The UN focuses on a specific issue every year through its International Year.
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➤ ***UN declares 2020 International Year of Plant Health***

- The United Nations (UN) has declared 2020 the 'International Year of Plant Health'.



- The main objective of the IYPH will be to raise awareness of the importance and impacts of plant health in addressing issues of global importance, including hunger, poverty, food security, and threats to the environment and economic development.
- **The UN Year 2024** International Year of Camelids
- **The UN Year 2022** International Year of Artisanal Fisheries and Aquaculture
- **The UN Year 2021** International Year of Peace and Trust
- **The UN Year 2020** International Year of Plant Health
- **The UN Year 2019** International Year of Indigenous Languages
International Year of Moderation
International Year of the Periodic Table of Chemical Elements
- **The UN Year 2017** International Year of Sustainable Tourism for Development
- **The UN Year 2016** International Year of Pulses
- **The UN Year 2015** International Year of Light and Light-Based Technologies
International Year of Soils
- **The UN Year 2014** International Year of Small Island Developing States
International Year of Crystallography
International Year of Family Farming

- **The UN Year 2013** **International Year of Water Cooperation**
International Year of Quinoa
- **The UN Year 2012** **International Year of Cooperatives**
International Year of Sustainable Energy for All
- **The UN Year 2011** **The International Year of Forests**
The International Year of Chemistry
The International Year for People of African Descent
- **The UN Year 2010** **The International Year of Biodiversity**
The International Year for the Rapprochement of Cultures
The International Year of Youth
- **The UN Year 2009** The International Year of Astronomy
The International Year of Human Rights Learning
The International Year of Natural Fibres
The International Year of Reconciliation
- **The UN Year 2008** The International Year of Languages
The International Year of Planet Earth
The International Year of the Potato
The International Year of Sanitation

➤ ***International Day of Forests 2019 : 21 March***

- International Day of Forests was celebrated on 21 March, with 'Forests and Education' being the central theme of the celebrations.



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- **2019 Theme : Forests and Education**
2018 Theme: Forests & Sustainable Cities
2017 Theme: Forests & Energy
 - It seek to raise awareness on how sustainably managed forests provide a wide array of contributions in this area.
 - The United Nations General Assembly proclaimed 21 March the International Day of Forests (IDF) in 2012. The Day celebrates and raises awareness of the importance of all types of forests.
-

➤ ***International Day for Biological Diversity :
22 May 2019***



- The International Day for Biological Diversity (or World Biodiversity Day) is a United Nations–sanctioned international day for the promotion of biodiversity issues.
- It is currently held on May 22.
- The International Day for Biological Diversity falls within the scope of the UN Post-2015 Development Agenda's Sustainable Development Goals.
- Theme :
2019 – Our Biodiversity, Our Food, Our Health

2018 – Celebrating 25 Years of Action for Biodiversity
2017 – Biodiversity and Sustainable Tourism
2016 - Mainstreaming Biodiversity; Sustaining People and their Livelihoods
2015 - Biodiversity for Sustainable Development
2014 - Island Biodiversity
2013 - Water and Biodiversity
2012 - Marine Biodiversity
2011 - Forest Biodiversity
2010 - Biodiversity, Development and Poverty Alleviation
2009 - Invasive Alien Species
2008 - Biodiversity and Agriculture
2007 - Biodiversity and Climate Change
2006 - Protect Biodiversity in Drylands
2005 - Biodiversity: Life Insurance for our Changing World
2004 - Biodiversity: Food, Water and Health for All
2003 - Biodiversity and poverty alleviation - challenges for sustainable development
2002 - Dedicated to forest biodiversity

➤ ***Earth Day : 22 April***

Earth Day is an annual event, celebrated on April 22, on which day events worldwide are held to demonstrate support for environmental protection. It was first celebrated in 1970, and is now coordinated globally by the Earth Day Network and celebrated in more than 193 countries each year.

- **Significance of the Day :** It recognises that Earth and its ecosystems provide its inhabitants with life and sustenance. It also aims to raise awareness that humans have a collective responsibility to promote harmony with nature and to balance the economic, social and environmental needs of present and future generations.

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- 2019 Theme : "Protect Our Species"
 - 2018 Theme : "End Plastic Pollution"
 - 2017 Theme: "Environmental and Climate Literacy".
 - 2016 Theme: 'Trees for the Earth!'.
 - The agreement is a legally binding on signatory countries to limit global temperature rise to well below 2 degrees Celsius. On this day more than one billion people participate in Earth Day campaigns from all around the globe of all nationalities, faiths and backgrounds. Background The first Earth Day was celebrated in 1970. Since then it is being observed in more than 192 countries.
 - The concept of observing Earth Day was formally proposed by John McConnell at a UNESCO conference on Environment in 1969 as a global holiday. Later in 1971, a proclamation was signed to observe international Earth Day annually on the Vernal Equinox by UN Secretary-General U Thant.
-

➤ 2019 : World Food Prize



- Vegetable breeder Simon Groot of the Netherlands is the 2019 World Food Prize Laureate.
- He was honored for his transformative role in empowering millions of smallholder farmers in more than 60 countries to earn greater incomes through enhanced vegetable production, benefiting hundreds of millions of consumers with greater access

to nutritious vegetables for healthy diets.

- Groot, a sixth-generation seedsman, founded East-West Seed in 1982 in the Philippines with the idea that a good vegetable seed could change the lives of the poor. Having observed the many challenges facing poverty-stricken smallholder farmers in Southeast Asia, Groot set out to establish the first market-oriented vegetable seeds breeding company with smallholders as the main client base.
-

➤ **2018 : World Food Prize**



- The World Food Prize Foundation awarded the **2018 World Food Prize** to **Lawrence Haddad**, Executive Director of the Global Alliance for Improved Nutrition (GAIN) and **David Nabarro**, former special adviser to the UN Secretary General for their “extraordinary intellectual and policy leadership in bringing maternal and child nutrition to the forefront of the global food security agenda and thereby significantly reducing childhood stunting”.
- This year’s \$250,000 prize will be divided equally between two recipients.
- An economist, Lawrence Haddad has been working to advance nutrition and food security for three decades. In 2014 he was a founding co-chair of the Global Nutrition Report and was a principal author of the Report for its first three years.
- Lawrence Haddad joined GAIN in 2016, which, under his leadership,

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has focused on making nutritious and safe foods more available, affordable and desirable for those most in need.

About World Food Prize :

- The World Food Prize is an international award recognizing the achievements of individuals who have advanced human development by improving the quality, quantity, or availability of food in the world.
- The World Food Prize was founded in 1986 by Dr. Norman E Borlaug, recipient of the 1970 Nobel Peace Prize.
- Since 1987, the prize has been awarded annually to recognize contributions in any field involved in the world food supply : food and agriculture science and technology, manufacturing, marketing, nutrition, economics, poverty alleviation, political leadership, and the social sciences.

Indians who have won World Food Prize :

- **2014 Dr Sanjaya Rajaram** (Developed 480 varieties of disease resistant wheat)
- **2005 Dr Modadugu Vijay Gupta** (Development and dissemination of low-cost techniques for freshwater fish farming (using tilapia species) by the rural poor.)
- **2000 Dr Surinder K. Vasal** (Developing high quality protein maize (QPM).)
- **1998 Dr B. R. Barwale** (Founder of independent seed company Mahyco, strengthening seed supply and distribution throughout India.)
- **1996 Dr Gurdev Khush** (Developing "miracle rice" varieties that doubled rice production in Asia since their development)
- **1989 Dr Verghese Kurien** (Founder of Operation Flood the largest agricultural development program in the world made the farmer the owner of his cooperative, cutting out middlemen. India emerged as the largest producer of milk in 1998 from milk scarcity when he started.)

- **1987** **Prof. M. S. Swaminathan** (Introducing high-yielding wheat and rice varieties to India starting India's Green Revolution)

➤ ***IUFoST – World Congress 2018 held in India***



- 19th edition of IUFoST-World Congress of Food Science and Technology 2018 was held in **Mumbai, India** from October 23-27, 2018.
- The Focal Theme of the 19th IUFoST World Congress is "**25 Billion Meals a Day by 2025 with Healthy, Nutritious, Safe and Diverse Foods**".
- IUFoST is the global scientific organization and voice for food science and technology representing more than 200,000 food scientists and technologists from over 70 countries. It is a voluntary, non-profit association of national food science organizations. It was formed in 1962.
- 20th Edition will be held in New Zealand from 17 to 20 August 2020.

➤ ***World Milk Day 2019***

- World Milk Day is a day established by the Food and Agriculture Organization (FAO) of the United Nations to recognize the importance of milk as a global food. It has been observed on **June 1** each year since 2001.
- World Milk Day 2019 theme in India is, "**Drink Milk : Today & Everyday**". The World Milk Day is an event which does not follow a specific theme worldwide.

➤ ***World Environment Day 2019***

- To raise awareness about protecting the environment, United Nations (UN) has designated June 5 as World Environment Day.
- The theme for the World Environment Day 2019, "**Air Pollution**".
- Every World Environment Day has a different global host country, where the official celebrations take place. This year it is China.



ICAR

: Current Updates

➤ ***ICAR develops 2 new chickpeas varieties***

- Indian Council of Agricultural Research (ICAR) has developed two superior chickpea varieties through molecular breeding and are best suited for cultivation in six states.
 - The two varieties - '**Pusa Chickpea 10216**' and '**Super Annigeri 1**' have been developed jointly by ICAR and University of Agricultural Sciences, Raichur in Karnataka in collaboration with International Crops Research Institute for the Semi-Arid Tropics through genomic interventions in breeding called molecular breeding.
 - These two chickpea varieties would benefit states like Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, and Uttar Pradesh.
 - '**Pusa Chickpea 10216**' is a drought tolerant variety that has an average yield of 1,447 kilo per hectare
 - The second variety '**Super Annigeri 1**' is resistant to Fusarium wilt disease, an important yield reducing factor in South India.
-

➤ ***'Kashi Lalima' : new variety of ladyfinger developed***

- Scientists from the Indian Institute of Vegetable Research (IIVR) have developed a special **red coloured** okra. It is named '**Kashi Lalima**'.
- It is full of all the nutrients including antioxidant, iron and calcium. It costs more than the common ladyfinger.

➤ ***IIHR develops 2 processable tomato hybrids***

- The Indian Institute of Horticultural Research has developed two tomato hybrids, exclusively meant for the processing industry.
 - These hybrids – **Arka Vishesh** and **Arka Apeksha** – are disease-resistant and are expected to not only boost farmers' incomes through higher yields but are also aimed at reducing processing costs because of higher total soluble solids (TSS) and lycopene content.
 - It is for the first time tomato hybrids have been developed for the processing industry.
 - Farmers can be assured of a minimum 25 per cent increase in yields at 50 tonnes per hectare, while the potential exists to harvest up to 100 tonnes per hectare under precision agriculture using drip irrigation. Existing hybrids give a minimum yield of 40 tonnes per hectare.
 - Also, the new hybrids are resistant to disease such as tomato leaf curl virus, bacterial wilt and early blight, which helps farmers in reducing the number of sprays on the crop.
-

➤ ***Wheat Variety HD 3226 released***

- A new variety of wheat seed HD3226 is developed by the country's premier Indian Agricultural Research Institute (IARI).
- It is released for commercial cultivation in North Western Plain Zone comprising of Punjab, Haryana, Delhi, Rajasthan (Except Kota and Udaipur Divisions), Western Uttar Pradesh (Except Jhansi Division), Jammu and Kathua district of J&K, Una district and Paonta Valley of H.P and Uttarakhand (Tarai region) under Irrigated, timely Sown Conditions.

Disease Resistance

- Highly resistant to Yellow, Brown and Black rust
- Highly resistant to Karnal bunt, Powdery mildew, loose smut and foot rot

Yield

- The average yield of HD 3226 is 57.5 q/ha while the genetic yield

potential is 79.60 q/ha.

Quality Parameters

- High Protein content (12.8% average)
 - High dry and wet gluten
 - Good grain appearance, high sedimentation value, high extraction rate,
 - Average Zinc content 36.8 ppm
 - HD 3226 has perfect Glu-1 Score (10) with highest bread quality score (6.7) and bread loaf volume indicating its suitability for various end use products.
-

➤ ***Two Groundnut Varieties with 80% Oleic Acid Content***

- The groundnut research body of the Indian Council of Agricultural Research (ICAR) has identified two varieties with high oleic acid content for the commercial release - Girnar 4 (ICGV 15083) & Girnar 5 (ICGV 15090).
 - The two varieties with nearly 80 % (of total fat) oleic acid content, will now be available for farming.
 - Oleic acid is a mono-unsaturated fatty acid that has many health benefits like reduced risk of developing cardiovascular diseases.
 - The normal groundnut kernels contain 40 to 50% oleic acid content.
 - Oleic acid "cuts low-density lipoprotein (LDL) cholesterol, which is considered 'bad' cholesterol & maintains high-density lipoproteins (HDL) levels known as 'good' cholesterol, making them healthier".
-

➤ ***Social Start-up - Madhu Shakti Project launched***

- The Krishi Vigyan Kendra, Narayangaon and the Central Beekeeping Research & Training Institute (CBRTI), Pune launched the Madhu Shakti - a project focused on empowering rural women through beekeeping on 14th August, 2019. The project is being financially assisted by the Bee Positive and PHD-Rural Development Foundation, New Delhi.

➤ ***ICAR-NEH Quality Analysis Laboratory inaugurated at Imphal, Manipur***

- Shri Th. Shyamkumar, Minister for Horticulture & Soil Conservation, Forest & Environment and MAHUD & Town Planning, Government of Manipur inaugurated the ICAR-NEH Quality Analysis Laboratory at the ICAR-Research Complex for North-Eastern Hill Region, Manipur Centre, Imphal.
 - The Laboratory is a unique joint venture of the ICAR and Government of Manipur implemented with the Financial Assistance from Department of Horticulture and Soil Conservation, Manipur under the Mission for Integrated Development of Horticulture.
-

➤ ***Krishi Kumbh-2019 organized***

- The ICAR-Mahatma Gandhi Integrated Farming Research Institute, Motihari, ICAR-RCER, Patna and Dr. RPCAU, Pusa, Samastipur jointly organized a three days Mega Agriculture Show, Krishi Kumbh - 2019 at Gandhi Maidan, Motihari, Bihar from 9th to 11th February - 2019.
-

➤ ***ICAR-CIFT bags Outstanding ICAR Institution Award***

- The ICAR-Central Institute of Fisheries Technology, Cochin bagged the most prestigious Sardar Patel Outstanding ICAR Institution Award for the Largest Institute - 2018 during the ICAR's 91st Foundation Day celebrations held at the National Agricultural Science Centre Complex, Pusa, New Delhi on 16 July 2019.
- The Institute was conferred with the award for its commendable scientific contributions made in the fields of fish harvesting, processing, packaging, quality assurance, nutraceutical, fish waste utilization, biotechnological applications, etc.
- This is the third time that the Institute was honoured with the coveted award after the Years - 2000 and 2006 for its excellent

track record in R&D endeavours and extension activities in the harvest and post-harvest fisheries.

- The ICAR-CIFT received the National Accreditation Board for Testing and Calibration Laboratories (NABL) Accreditation (ISO 17025) in the Year - 2005 and ISO 9001:2008 Certification in 2013.
-

➤ ***PUSA Krishi Vigyan Mela - 2019 was held from 5th to 7th March - 2019***

- PUSA Krishi Vigyan Mela - 2019 was organized at the IARI Mela Ground from 5th to 7th March - 2019.
 - Dr. Trilochan Mohapatra, Secretary (DARE) & DG (ICAR) inaugurated the PUSA Krishi Vigyan Mela - 2019 at Indian Agricultural Research Institute (IARI), New Delhi.
 - It was organised by ICAR-Indian Agricultural Research Institute.
-

➤ ***ICAR Republic Day Tableau Kisan Gandhi bags First Prize***

- The Indian Council of Agricultural Research (ICAR) was awarded First Prize for its Tableau, 'Kisan Gandhi' in the Republic Day Parade - 2019.
- Smt. Nirmala Sitharaman, Minister of Defence, handed over the award to the ICAR team.
- The ICAR tableau displayed the importance of dairy farming, use of indigenous breeds and livestock based organic agriculture for rural prosperity.
- The ICAR tableau "Kisan Gandhi" portrayed the Gandhiji's vision to improve agriculture and livestock for the prosperity of rural communities.
- In the tableau, Bapu was shown with goats and a cow. Organic agriculture, revolution in cotton and milk production and food safety analysis for better health were also showcased. Kasturba Gandhi was also shown engaged with Charkha and caring for animals at Bapu Kutli at Wardha Ashram. It symbolized livestock based sustainable and climate resilient agriculture.

➤ **14th Agricultural Science Congress - 2019**

- The four - day long "14th Edition of Agricultural Science Congress - 2019" was jointly organized by the National Academy of Agricultural Science (NAAS) and ICAR-Indian Agricultural Research Institute at National Agricultural Science Centre Complex, New Delhi.
 - Theme : "Innovations for Agricultural Transformation"
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➤ **ICAR launched National Agricultural Higher Education Project (NAHEP)**

- ICAR has launched Rs 1100 crore ambitious National Agricultural Higher Education Project (NAHEP) to attract talent and strengthen higher agricultural education in the country.
 - This project will be funded by the World Bank and the Indian Government on a 50:50 basis.
-

➤ **Newly Released Varieties of PUSA, 2018-19**

- During 2018-19, IARI had released a high yielding, non-basmati, medium slender grain, blast resistant rice variety named "**Pusa Sambha 1850**" for Chhattisgarh and Odisha.
- **Two new wheat varieties "HI 1612" and "HD 8777"** were developed by ICAR-IARI, Regional Station, Indore for North Eastern Plain Zone and Peninsular Zone respectively.
- Institute has also released **Maize hybrid "Pusa Super Sweet Corn 1"** with enhanced sweetness with a good grain (9.3 t/ha) and fodder (16.2 t/ha) yield. **Grape hybrid "Pusa Aditi"** was released by the Delhi State Variety Release Committee for its commercial cultivation in NCR region. The varieties of cherry tomato i.e. (Pusa Cherry Tomato-1) and onion (Pusa Sobha) have been released and notified by CVRC for cultivation under protected condition in Delhi NCR and major onion growing states of the country, respectively. Onion variety 'Pusa Sona' has been released by All India Network Project on Onion and Garlic and recommended for notification by CVRC.
- 10 new varieties, viz. **Longmelon 'Pusa Utkarsh'**, round melon

'Pusa Raunak', cucumber (parthenocarpic, gynoecious) 'Pusa Seedless Cucumber-6', muskmelon 'Pusa Madhurima' & 'Pusa Sunahari', brinjal 'Pusa Safed Baingan-1' & 'Pusa Hara Baingan-1', okra (resistant to YVMV) 'Pusa Bhindi-5, garden pea 'Pusa Prabal' and chenopodium 'Pusa Green' and two hybrids viz. sponge gourd 'Pusa Shrestha' and bitter gourd 'Pusa Hybrid-4' have been released for cultivation in Delhi NCR region.

➤ ***ICAR has approved registration of record 15 new breeds of livestock and poultry in 2018***

- ICAR has approved registration of record 15 new breeds of livestock and poultry in 2018 alone taking the total to 40 during 2014-18.
 - The 15 newly registered breeds include two cattle breeds - Ladakhi (J&K) and Konkan Kapila (Maharashtra & Goa); three buffalo breeds - Luit (Assam & Manipur), Bargur (Tamil Nadu), Chhattisgarhi (Chhattisgarh); one sheep breed – Panchali (Gujarat); six goat breeds – Kahmi (Gujarat), Rohilkhandi (UP), Assam Hill (Assam & Meghalaya), Bidri (Karnataka), Nandidurga (Karnataka), Bhakarwali (J&K); one pig breed – Ghurrah (UP); one donkey breed – Halari (Gujarat) and one chicken breed – Uttara (Uttarakhand).
-

➤ ***CSWRI comes up with new sheep insemination technique***

- Scientists at the Central Sheep and Wool Research Institute (CSWRI), Avikanagar, have come up with a new laparoscope-assisted insemination technique for sheep, which has resolved the difficulties involved in freezing of semen and inability to transit the tortuous reproductive tract of the ruminant mammals kept as livestock.
 - The minor invasive laparoscopic technique involves passing a rigid fibre-optic laparoscope into the abdomen through a small incision. The reproductive tract is located through camera and the frozen semen is deposited into the uterus.
 - The complete operation takes about five minutes for each animal with the near-total absence of any complications.
-

➤ ***President of India Dedicates Advanced Centre for Agricultural Research and Education established by ICAR-IARI to the People of Myanmar***

- Honourable President of India Shri Ram Nath Kovind Ji dedicated Advanced Centre for Agricultural Research and Education (ACARE), an India-Myanmar Friendship Project to the people of Myanmar on 12th December 2018.
-

➤ ***ICAR bagged prestigious BGRI Gene stewardship Award***

- Dr. Trilochan Mohapatra , Secretary (DARE) & Director General (ICAR) received the prestigious Borlaug Global Rust Initiative (BGRI) Gene Stewardship Award from Jennie Borlaug Laube, Chairperson, Borlaug Global Rust Initiative.
 - This award was given to ICAR in recognition of the outstanding work done by the Indian Wheat Programme in development and constant release and dissemination of agronomically-superior rust resistant wheat varieties that enabled effective management of rust disease thereby ensuring food security of the country.
-

➤ ***World Bank and ICAR launched the National Agricultural Higher Education Project (NAHEP)***

- World Bank and Indian Council of Agricultural Research (ICAR) have launched the National Agricultural Higher Education Project (NAHEP), a Rs. 1,100 cr project that will benefit all 75 agricultural universities under ICAR in the country.
- The funding for NAHEP is split into half and shared by Government of India and World Bank. The funds will be disbursed by ICAR to improve infrastructure and facilities, to researchers who show academic excellence and to innovative projects that need scaling up.
- NAHEP is aimed at improving the relevance and quality of higher education in agriculture.

- The project aims at reforming the agricultural higher education scenario, that is infested by pervasive academic inbreeding. According to the project document issued by World Bank, "51% of Agricultural University faculty have earned all their degrees from the same university. Only 17% of faculty recruits are new to the respective university, and 46% of faculty have more than 15 years experience at the same institution."

➤ ***India's first cloned Assamese buffalo born***

- A cloned Assamese buffalo male calf has been born for the first time, the Central Institute for Research on Buffaloes (CIRB) claimed.
- Unique methods were used and this clone calf, Sach-Gaurav, was produced on December 22, 2017 through a normal delivery.
- The calf was born to a Murrah buffalo.
- It was also the first to be born in the field, 100 kms from the cloning laboratory at Hi Tech Sach Dairy Farm.
- Indian Council of Agricultural Research-CIRB is a central institute and it has a mandate to conserve superior animals of all buffalo breeds.
- Assamese buffaloes were found only in the north-eastern part of the country and they were used mainly for agricultural work.
- This was the second cloned male produced by ICAR-CIRB after Hisar-Gaurav, born December 11, 2015.

➤ ***PUSA ARHAR-16 developed by ICAR-IARI***

- ICAR-IARI, New Delhi has developed extra early maturing (120 days), semi-dwarf (95 cm to 120 cm tall), determinate, high yielding new plant type genetic material viz., Pusa Arhar 16 which is semi-erect compact plant type.
- This plant type allows dense plant population of 3,30,000 plants/ha when planted with Row X Row spacing of 30 cm and Plant X Plant spacing of 10 cm.
- High density planting is important to realize higher yield and mechanization.

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- Traditional varieties do not allow high density planting as their plant type is indeterminate and spreading type. Thus, suitability to high population density of this line allows uniform plant density and ultimately uniform plant stand and thereby reduces losses in yield due to seedling mortality.
- This new plant type, with synchronous maturity, is also suitable for combine harvesting and thus does not require manual laborers for harvesting and threshing.
- Shri Arun Jaitley, Union Minister of Finance and Corporate Affairs and Shri Radha Mohan Singh, Union Agriculture and Farmers Welfare Minister visited the field of PUSA Arhar -16, IARI on 31 October, 2016.

➤ *New Varieties developed*

- **New Rice variety 'CR Dhan 310' developed by NRRI, Cuttack** : The scientists of NRRI, Cuttack have developed CR Paddy 310 for the first time in the world which contains 11% protein while other species of rice generally contain protein only 6-7%.

- **'DRR-Dhan 45'** : The Indian Institute of Rice Research (IIRR) has development a **new high zinc variety of rice 'DRR-Dhan 45'**

It requires less water and reduces input costs. It is developed through conventional methods and is the first-of-its-kind to be notified on a national level.

The rice variety is moderately resistant to major pests and diseases such as blast, sheath rot and rice tungro viruses. DRR-Dhan 45 is a semi dwarf, long slender variety that has a crop duration of 125 days.

- **New Improved Fruit varieties for export developed :**

Grapes : Manjari Naveen, Medika (Anti-oxidant rich)

Cashew : Cashew Hybrid (H-126)

- **New Improved Fruit crop varieties developed :**

Apple : Lalima (high yielding crimson coloured variety)

Guava : Dhawal, Arka Kiran (high lycoprotein containing guava)

hybrid)

Coconut : VPM - 5 (high yielding coconut hybrid for Tamil Nadu)

- **New Vegetable crop varieties developed :**

Cauliflower : Pusa Kesari vit A (beta carotene rich variety)

Cucumber : Pusa Seedless Cucumber-6 (Extra early cucumber variety for protected cultivation)

Ridge gourd : VRRG - 27 (high yielding downy mildew resistant)

Potato : Kufri Mohan (high yielding variety for medium duration - 50 days)

- **Vegetable varieties for specific needs :**

Onion : Arka Kalyan, Arka Swadista, Arka Bindu, Arka Ujjwal

Tomato : Arka Rakshak, Arka Samrat

➤ ***Four new and improved crossbred varieties of pigs released***

- Two new and improved crossbred varieties of pigs : **Rani** and **Asha** developed by ICAR-National Research Centre on Pig, Rani, Guwahati and another two varieties of pigs namely **HD-K75** and **Jahrsuk** developed under All India Coordinated Research Project on Pig at Assam Agricultural University, Guwahati and Birsu Agricultural University, Ranchi, respectively were released.

➤ ***College of Veterinary Sciences & Animal Husbandry of Central Agricultural University (CAU) in Nagaland inaugurated***

- Union Minister of Agriculture and Farmers Welfare, Govt. of India, Shri Radha Mohan Singh on 6 August 2016 inaugurated the College of Veterinary Sciences & Animal Husbandry in Jalukie village, Peren District, Nagaland under the aegis of the Central Agricultural University (CAU), Imphal.

➤ **New ICAR Awards**

Name of Award (Nos.)	Year of Institution	Value of the award
1. Cash Award Scheme (3 awards one each in Technical, administrative & supporting categories)	2014	Rs. 51,000/- each
2. Haldhar Organic Farmer Award (1)	2015	Rs. 1,00,000/-
3. Pandit Deendayal Antyodaya Krishi Puraskar (1 National & 11 Zonal)	2016	National : Rs. 1 lakh Zonal : Rs. 51,000 each
4. Pandit Deendayal Rashtriya Krishi Vigyan Puraskar (1 National & 11 Zonal)	2016	National : Rs. 25 lakh Zonal : Rs. 2,25,000 each

➤ **NEWS IN SHORT**

- ICAR has decided to celebrate 15 October as “Mahila Kisan Divas”.
- **Four new and improved crossbred varieties of pigs released by ICAR** : Two new and improved crossbred varieties of pigs namely **Rani** and **Asha** developed by ICAR-National Research Centre on Pig, Rani, Guwahati and another two varieties of pigs namely **HD-K75** and **Jahrsuk** developed under All India Coordinated Research Project on Pig at Assam Agricultural University, Guwahati and Birsa Agricultural University, Ranchi, respectively were released.
- ICAR has designated on **3rd December** as “**Agricultural Education Day**” to commemorate the birth anniversary of first President of Independent India and Union Minister of Agriculture, Bharat Ratna, Dr. Rajendra Prasad.

➤ **ICAR****Persons**

- | | | |
|------------------------------|---|--------------------------|
| 1. First DG of ICAR | : | Dr B. P. Pal |
| 2. First President of ICAR | : | Habibullah |
| 3. First Director of IARI | : | Dr. Vishwanathan |
| 4. Present DG of ICAR | : | Dr. Trilochan Mohapatra |
| 5. Present President of ICAR | : | Sh. Narendra Singh Tomar |

➤ **Publication of ICAR****Periodicals (English)**

1. Indian Journal of Agricultural Sciences (Monthly)
2. Indian Journal of Animal Sciences (Monthly)
3. Indian Farming (Monthly)
4. Indian Horticulture (Quarterly)
5. ICAR News (Quarterly)
6. ICAR Reporter (Quarterly)
7. ARIS (Quarterly)

Periodicals (Hindi)

1. Kheti
2. Phal Phool
3. Krishi Chayanika

➤ **ICAR Awards****Field**

- | | |
|-------------------------------|---|
| 1. Jawahar Lal Nehru award | Best Ph.D thesis in the field of Agriculture and allied subject |
| 2. Fakruddin Ali Ahmed award | Agriculture research in tribal areas |
| 3. ICAR young scientist award | In agriculture and allied subject |
| 4. Vasantrao Naik award | Water conservation and dry land farming |
| 5. Rafi Ahmed Kidwai award | Agri, animal husbandry and allied science |

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- | | |
|---|--|
| 6. Outstanding women agril scientist | To encourage ICAR women scientist |
| 7. Hari Om Ashram Trust award | Published research in agriculture sector |
| 8. ICAR team award | For multi-disciplinary research in Agriculture and allied sciences |
| 9. Jagjivan Ram Kisan Puruskar | Two innovative farmers in agril and allied sciences |
| 10. Chaudhary Devi Lal award | For outstanding performance of AICRPs |
| 11. Best KVK award | For outstanding performance made by KVK |
| 12. Chaudhary Charan Singh award | For excellence in journalism related to agriculture research and development |
| 13. ICAR Norman Borlaug Award | For outstanding research work by a scientist in any discipline |
| 14. Atal Bihari Vajpayee ICAR Challenge Award | To find out the solution of any immediate or long standing problem or limitation in agriculture. |
| 15. Sardar Patel Outstanding Institution | To recognize the outstanding performance of Institute / SAU etc. |
| 16. Panjabrao Deshmukh Outstanding Women Scientist Award | To promote woman Scientist for research /extension in agriculture individually. |
| 17. N.G. Ranga Farmer Award for Diversified Agriculture | To recognize the farmer for innovation in diversified agriculture. |
| 18. Bharat Ratna Dr C. Subramaniam Award for Outstanding Teachers | To provide recognition to outstanding teachers for quality education. |
| 19. Dr. Rajendra Prasad Puruskar | For technical books in Hindi in Agricultural and Allied Sciences. |
| 20. Lal Bahadur Shastri Outstanding Young Scientist Award | To encourage young scientist in agricultural research |

- | | |
|---|---|
| 21. Swami Sahajanand Saraswati Outstanding Extension Scientist Award | Meant exclusively for extension scientist or teacher for excellence in agriculture extension methodology and education. |
| 22. Pandit Deen Dayal Upadhyay Antyodaya Krishi Puruskar (National & Zonal) | To recognize the marginal, small, and landless farmers for developing sustainable integrated models of farming. |
| 23. Haldhar Organic Farmer Award | To recognize outstanding contribution of organic farmers |
| 24. NASI - ICAR Award For Innovation and Research on Farm Implements | To encourage researchers and innovators to develop farm implements for farm women. |

➤ ***Revised names of ICAR Institutes***

- Central Soil and Water Conservation Research and Training Institute (CSWCRTI), Dehradun
Renamed as : ICAR – Indian Institute of Soil and Water Conservation (ICAR - IISWC)
- Central Agricultural Research Institute (CARI), Andaman and Nicobar Islands
Renamed as : Central Island Agricultural Research Institute (CIARI)
- Directorate of Maize Research (DMR), Pusa, New Delhi
Renamed as : Indian Institute of Maize Research (IIMR), Ludhiana (shifted from New Delhi to Ludhiana)
- Directorate of Rice Research (DRR), Rajendranagar, Hyderabad
Renamed as : Indian Institute of Rice Research (IIRR) from 15 Dec., 2014
- Directorate of Wheat Research (DWR), Karnal, Haryana
Renamed as : Indian Institute of Wheat and Barley Research (IIWBR)
- Directorate of Water Management, Bhubaneswar
Renamed as : Indian Institute of Water Management (IIWM)
- Directorate of Research on Women in Agriculture, Bhubaneswar
Renamed as : Central Institute for Women in Agriculture

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(CIWA)

- Directorate of Oil Palm Research (DOPR), Pedavegi, West Godavari Dt., Andhra Pradesh
Renamed as : Indian Institute of Oil Palm Research
- Directorate of Oilseeds Research (DOR), Rajendranagar, Hyderabad
Renamed as : Indian Institute of Oilseeds Research (IIOR)
- Directorate of Sorghum Research (DSR), Rajendranagar, Hyderabad
Renamed as : Indian Institute of Millets Research (IIMR)
- National Research Centre for Agroforestry (NRCAF), Jhansi, Uttar Pradesh
Renamed as : Central Agroforestry Research Institute (CAFRI)
- National Research Centre for Citrus (NRCC), Nagpur
Renamed as : Central Citrus Research Institute (CCRI)
- ICAR Research Complex for Goa, Goa
Renamed as : Central Coastal Agricultural Research Institute (CCARI)
- ICAR - Project Directorate for Farming Systems Research (ICAR - PDFSR), Modipuram, Meerut, UP
Renamed as : Indian Institute of Farming Systems Research (IIFSR)

➤ **ICAR Institutes / Projects (as on 13 Nov. 2019)**

- All India Coordinated Research Projects - 60
- Institutions - 64
- National Research Centres - 15
- National Bureaux - 6
- Directorates/Project Directorates - 13
- Krishi Vigyan Kendras - 706
- Central Agricultural Universities - 3
- Deemed Universities - 4
- State Agricultural Universities - 64

Source : <http://www.icar.org.in/>



Agricultural Knowledge

(Important Agricultural Facts)

- The Gross Value Added (GVA) in agriculture is **2.9 per cent** in 2018-19.
- As per the Fourth Advanced Estimates, foodgrain production during 2018-19 is estimated at **284.95 million tonnes**
- As per the First Advanced Estimates released on 23 September 2019, kharif food grain production during 2019-20 is estimated at **140.57 million tonnes**

Production in 2018-19 (4th AE)

Crop	2018-19 (Fourth Advance Estimates)
Foodgrains	284.95 million tonnes
Total 9 Oilseeds	322.57 lakh tonnes
Sugarcane	4001.57 lakh tonnes
Cotton@	287.08

@ Production in lakh bales of 170 kg each.

Source: Directorate of Economics & Statistics (as on 23.09.2019)

- During 2018-19 (3rd AE), the production of horticulture crops is about **313851 ('000 MT)** from an area of **25492 ('000 Ha)**.
- The share of agriculture in employment was of the workforce [National Sample Survey Office (NSSO), 2011-12]
48.9 per cent

➤ **Production of Foodgrains for 2018 - 19**

Group/Commodity	Production MT	
	2017 - 18	2018 - 19 (4 th Adv. Est.)
Rice	112.76	116.42
Wheat	99.87	102.19
Jowar	4.80	3.76
Bajra	9.21	8.61
Maize	28.75	27.23
Barley	1.78	1.75
Nutri / Coarse Cereals	46.97	42.95
Cereals	259.60	261.55
Tur	4.29	3.59
Gram	11.38	10.13
Total Pulses	25.42	23.40
Total Foodgrains	285.01	284.95
Total Nine Oilseeds	314.59 (LT)	322.57 (LT)
Groundnut	92.53 (LT)	66.95 (LT)
Rapeseed & Mustard	84.30 (LT)	93.39 (LT)
Sugarcane	3799.05 (LT)	4001.57 (LT)
Cotton*	328.05 (LT)	287.08 (LT)
Jute & Mesta**	100.33 (LT)	97.68 (LT)

Source : Directorate of Economics and Statistics, DoA,C&FW, MoA&FW, Gol * Bales of 170 kg; ** Bales of 180 kg; LT - Lakh Tonnes

➤ **Area, Production and Yield (2018-19**)**

Group/ Commodity	Area (million ha)	Production (million tonnes)	Yield (kg/ha)
Foodgrains ^a	122.7	281.4	2292
Rice	43.4	115.6	2665
Wheat	29.1	99.1	3408
Pulses	28.3	24.0	849
Oilseeds	25.5	31.5	1234
Cotton [@]	12.3	30.1	414
Sugarcane	5.1	380.8	75 [#]
Maize	6.7	7.5	1114
Bajra	9.1	27.8	3046

**2nd AE; ^a: Includes cereals and pulses

[@] : Million Bales of 170 kg.

[#] : Tonnes/ha

Source : Economic Survey 2018-19, Vol 2

Agriculture Gross Value Added (GVA)

- Central Statistics Office (CSO), Ministry of Statistics & Programme Implementation has released the New Series of National Accounts, based upon revising the base year from 2004-05 to 2011-12.
- The share of Agriculture, forestry and fishing sector in GVA is 14.4% in 2018-19.

➤ **Three Largest Producing States of Important Crops during 2017-18 (4th Advanced Estimates)**

I. Foodgrains	State	Production (MT)
Rice	West Bengal	14.97
	Punjab	13.38
	Uttar Pradesh	13.27
Wheat	Uttar Pradesh	31.88
	Punjab	17.85
	Madhya Pradesh	15.91
Maize	Karnataka	3.55
	Maharashtra	3.54
	Madhya Pradesh	3.54
Total Nutri/Coarse Cereals	Rajasthan	6.57
	Karnataka	6.27
	Maharashtra	6.09
Total Pulses	Madhya Pradesh	8.11
	Rajasthan	3.39
	Maharashtra	3.30
Total Foodgrains	Uttar Pradesh	51.3
	Madhya Pradesh	33.5
	Punjab	31.7
II. Oilseeds		
Groundnut	Gujarat	3.94
	Rajasthan	1.26
	Andhra Pradesh	1.04
Rapeseed & Mustard	Rajasthan	3.40
	Haryana	1.11
	Madhya Pradesh	0.98

Soyabean	Madhya Pradesh	5.32
	Maharashtra	3.89
	Rajasthan	1.07
Sunflower	Karnataka	0.10
	Bihar	0.02
	Odisha	0.02
Total Oilseeds	Madhya Pradesh	6.98
	Rajasthan	5.97
	Gujarat	5.86
III. Other Cash Crops		
Sugarcane	Uttar Pradesh	177.06
	Maharashtra	83.13
	Karnataka	28.26
Cotton ^a	Gujarat	12.64
	Maharashtra	6.55
	Telangana	4.75
Jute & Mesta ^b	West Bengal	7.64
	Bihar	1.45
	Assam	0.84

Source: Economic Survey 2018-19, Vol 2

^a : Production in million bales of 170 kg. each.

^b : Production in million bales of 180 kg. each.

➤ **States leading in productivity (yield) in kg/ha during 2017-18 (4th Adv. Est.)**

- Rice : Punjab (4366) > Tamil Nadu (3923) > Andhra Pr. (3792)
- Wheat : Punjab (5090) > Haryana (4412) > Rajasthan (3270)
- Total Foodgrains : Punjab (4715) > Haryana (3657) > TN (3138)

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- Nutri Cereals : Andhra Pradesh (4750) > West Bengal (4547) > T.N. (3911)
- Jowar : Andhra Pradesh (2150) > Madhya Pradesh (2112) > U.P. (1272)
- Bajra : Madhya Pradesh (2435) > Gujarat (2312) > U.P. (1941)
- Maize : T.N. (7744) > Andhra Pr. (6851) > West Bengal (4805)
- Total Pulses : M.P. (1084) > Jharkhand (1065) > Gujarat (1018)
- Gram : M.P. (1280) > Jharkhand (1258) > Gujarat (1253)
- Tur (Arhar) : M.P. (1297) > Gujarat (1244) > U.P. (1177)
- Lentil (Masur) : M.P. (1139) > Rajasthan (1080) > U.P. (1029)
- Groundnut : T.N. (2914) > Gujarat (2343) = West Bengal (2343)
- Rapeseed and Mustard : M.P. (2018) > Gujarat (1810) > Rajasthan (1558)
- Soybean : Telangana (1625) > Rajasthan (1207) > M.P. (1062)
- Sunflower : Punjab (1842) > Bihar (1417) > W.B. (1400)
- Cotton : Gujarat (819) > Punjab (750) > Rajasthan (551)
- Jute and Mesta : Bihar (2762) > West Bengal (2616) > Assam (1957)
- Sugarcane : Maharashtra (92166) > T.N. (92002) > Haryana (84500)
- Tobacco : Uttar Pradesh (4407) > Telangana (2714) > Andhra Pradesh (2269)

Source : Agricultural Statistics at a glance 2018, GoI

➤ **Area and Production of Horticulture Crops - All India**

Area in '000 Ha

Production in '000 MT

	2018-19 (3rd Adv. Estimate)	
	Area	Production
Total Fruits	6648	98579
Total Vegetables	10100	185883
Flowers	313	2865
Aromatic & Medicinal	656	819
Total Plantation	3880	16368
Total Spices	3895	9216
Honey	—	120
Total	25492	313851

- Horticulture crops cover an area of **25.49 million ha** (m. ha) (2018-19 3rd AE).
- India has retained its status as the **second largest producer of fruits** in the world.
- The country is **first in the production of fruits** like mango, banana, sapota, pomegranate and aonla.
- India is the second largest producer of vegetables after China.
- India is the leading producer of vegetables like peas and okra.
- India occupies second position in the production of brinjal, cabbage, cauliflower, and onion and third position in the production of potato and tomato in the world.
- Interventions in horticulture in the country, have led to increase **per capita availability of fruits** from 133 gm/person/day in 2004-05 to **207.9 gms/person/day in 2017-18**.
- Similarly, **per capita availability of vegetables** has increased from 264 gm/ person/day in 2004-05 to **393.76 gm/person/day in 2017-18**.

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- India is the largest producer, consumer and exporter of spices and spice products, the total production of spices during 2018-19 (3rd AE) was 9216 ('000 MT) from an area of 3895 ('000 Ha).

National Horticulture Board (NHB)

The National Horticulture Board (NHB) was established in the year 1984 by the Government of India as an autonomous organization and registered as a society with the Registrar of Firms and Societies Chandigarh with its headquarters in Gurugram.

The broad aims and objectives of the Board are the creation of production hubs for commercial horticulture development, post harvest infrastructure and cold chain facilities, promotion of new crops, and promotion of growers' associations.

- **Central Institute of Horticulture, Medziphema, Nagaland** was established in the year 2006 for the holistic development of horticulture sector in the North East Region.

➤ **Per Capita Net Availability of Foodgrains (Per Day) in India (in 2018 (P)) (as on 17.5.2018)** (in grams/day)

Rice	186.2	Wheat	174.4
Other Cereals	81.5	Cereals	429.8
Pulses	54.5	Food grains	484.3

Source : Dept. of Economics and Statistics

➤ **Dairy Sector :**

- India ranks **First** in Milk Production (176.3 Million tonnes in 2017-18).
- The **per capita availability of milk in India in 2017-18 is 375 grams per day.**

➤ **All India Production of Milk, Eggs and Wool**

Milk : 176.3 Million Tonnes (2017-18)

Eggs : 95.2 Billion Nos. (2017-18)

Wool : 41.5 Million Kgs. (2017-18)

➤ **Fish Production in India (2017-18 (P))**

Total : 12.60 million metric tonnes

- India **ranks second in fish production** in the world after China.
- Fisheries constitute about 0.91 per cent of the GDP of the country and 5.23 per cent of agriculture GDP.

➤ **India State of Forest Report (ISFR) 2017**

- Union Minister for Environment, Forest and Climate Change, Dr. Harsh Vardhan has released the India State of Forest Report (ISFR) 2017 on 12 February 2018.
- The India State of Forest Report 2017 is 15th such report in the series.

Key findings of ISFR 2017 :

- India is ranked 10th in the world, with 24.4% of land area under forest and tree cover, even though it accounts for 2.4 % of the world surface area and sustains the needs of 17 % of human and 18 % livestock population.
- India's total forest cover increased by 0.94 per cent, from 7,01,673 square kilometers to 7,08,273 square kilometers since its last assessment in 2015. There is an increase of 8, 021 sq km (about 80.20 million hectare) in the total forest and tree cover of the country, compared to the previous assessment in 2015.
- The increase in the forest cover has been observed as 6,778 sq km and that of tree cover as 1,243 sq km.
- The total forest and tree cover is 24.39 per cent of the geographical area of the country.
- Much of the increase in the forest cover has been observed in Very Dense Forest (VDF), as VDF absorbs maximum carbon dioxide from the atmosphere.

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- The increase in forest cover in VDF is followed by increase in open forest.
- **Top Three states with largest forest cover in terms of area :**
 1. Madhya Pradesh 77,414 sq km
 2. Arunachal Pradesh 66,964 sq km
 3. Chhattisgarh (55,547 sq km).
- **Top 3 states in terms of percentage of forest cover with respect to the total geographical area :**
 1. Lakshadweep (90.33 per cent)
 2. Mizoram (86.27 per cent) and
 3. Andaman & Nicobar Island (81.73 per cent)
- **7 States/UTs have more than 75 per cent forest cover :** Mizoram, Lakshadweep, Andaman & Nicobar Islands, Arunachal Pradesh, Nagaland, Meghalaya and Manipur
- **8 states have forest cover between 33 per cent to 75 per cent** - Tripura, Goa, Sikkim, Kerala, Uttarakhand, Dadra & Nagar Haveli, Chhattisgarh and Assam.
- About 40% per cent of the country's forest cover is present in 9 large contiguous patches of the size of 10, 000 sq.km, or more.
- **Top 5 states where maximum forest cover has increased** are Andhra Pradesh (2,141 sq kms), Karnataka (1,101 sq kms), Kerala (1,043 sq kms), Odisha (885 sq kms) and Telangana (565 sq kms).
- **Top 5 states where forest cover has decreased** are Mizoram (531 sq km), Nagaland (450 sq km), Arunachal Pradesh (190 sq km), Tripura (164 sq km) and Meghalaya (116 sq km). These states are in the North Eastern region of the country where the total forest cover is very high i.e. more than 70% in each state.
- The main reasons for the decrease are - shifting cultivation, other biotic pressures, rotational felling, diversion of forest lands for developmental activities, submergence of forest cover, agriculture expansion and natural disasters.

Water bodies inside forests have increased over a decade :

- As per the latest assessment, water bodies inside forest cover have increased by 2,647 sq kms during the last decade.
- Maharashtra (432 sq kms), Gujarat (428 sq kms), Madhya Pradesh (389 sq kms) are top three states showing increase in water bodies within forest areas. Overall, almost all the states have shown a positive change in water bodies.

Mangrove cover of the country has shown a positive change

- As per ISFR 2017, mangrove forests have increased by 181 sq kms. Maharashtra (82 sq kms), Andhra Pradesh (37 sq kms) and Gujarat (33 sq kms) are the top three gainers in terms of mangrove cover. 7 out of the 12 mangrove states have shown an increase in mangrove cover and none of them show any negative change.
- The total mangrove cover stands at 4,921 sq km and has shown an increase of 181 sq km. All the 12 mangrove states have shown a positive change in the mangrove cover, as compared to the last assessment. Mangrove ecosystem is rich in biodiversity and provides a number of ecological services.

Bamboo Cover

- The extent of bamboo-bearing area in the country has been estimated at 15.69 million ha. In comparison to the last assessment done in 2011, there has been an increase of 1.73 million ha in bamboo area. The growing stock of the bamboo in forest has been estimated to be 189 million tonnes. There is an increase of 19 million tonnes in the bamboo-growing stock as compared to the last assessment done in 2011.

Background

- Forest Survey of India (FSI) has been assessing the forest and tree resources of our country on a biennial basis since 1987. The results of the assessment are published in its biennial report titled "India State of Forest Report (ISFR)". ISFR is released every two years.

➤ ***Agro-climatic regions / zones in India***

Planning Commission (in 1989) has identified 15 resource development regions in India, 14 in the main land and the remaining one in the islands of Bay of Bengal and Arabian Sea.

1. Western Himalayan Region: J&K, Himachal Pradesh, Uttarakhand
2. Eastern Himalayan Region: Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, West Bengal
3. Lower Gangetic Plain Region : West Bengal
4. Middle Gangetic Plain Region: Uttar Pradesh, Bihar
5. Upper Gangetic Plain Region: Uttar Pradesh
6. Trans-Gangetic Plain Region : Chandigarh, Delhi, Punjab, Haryana, Rajasthan
7. Eastern Plateau and Hills Region: Chhattisgarh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, West Bengal
8. Central Plateau and Hills Region: Madhya Pradesh, Rajasthan, Uttar Pradesh
9. Western Plateau and Hills Region: Maharashtra, Madhya Pradesh
10. Southern Plateau and Hills Region: Andhra Pradesh, Karnataka, Tamil Nadu
11. East Coast Plains and Hills Region: Odisha, Andhra Pradesh, Tamil Nadu, Puducherry
12. West Coast Plains and Ghat Region : Goa, Karnataka, Kerala, Maharashtra, Tamil Nadu
13. Gujarat Plains and Hills Region : Gujarat, Dadra & Nagar Haveli, Daman & Diu
14. Western Dry Region: Rajasthan
15. Island Region: Andaman & Nicobar Islands, Lakshadweep

Source : Agriculture Research Databook 2019, IASRI

➤ **Agro - ecological Zones of India**

Eco-system	Region	States	Eco - region
Arid	1. Western Himalayas	J&K, HP	Cold arid
	2. Western Plain, Kutch and part of Kathiawar Peninsula	Gujarat, Raj., Haryana, Punjab	Hot arid
	3. Deccan Plateau	Andhra P., Karnataka	Hot arid
Semi-arid	4. Northern Plain & Central Highlands including parts of Gujarat Plains	Gujarat, Raj., UP, MP, Haryana, Punjab	Hot semi-arid
	5. Central (Malwa) Highlands, Gujarat Plains & Kathiawar Peninsula	Gujarat, MP	Hot semi-arid
	6. Deccan Plateau	Karnataka, AP Maharashtra, MP	Hot semi-arid
	7. Deccan (Telangana) Plateau & Eastern Ghats	Andhra P.	Hot semi-arid
	8. Eastern Ghats, Tamil Nadu uplands & Deccan (Karnataka) Plateau	Karnataka, TN, Kerala	Hot semi-arid
Sub-humid	9. Northern Plain	Bihar, UP, Punjab	Hot sub-humid (dry)
	10. Central Highlands (Malwa & Bundelkhand & Eastern Satpura)	MP, Maharashtra	Hot sub-humid
	11. Eastern Plateau (Chhattisgarh)	MP	Hot sub-humid

	12. Eastern (Chhota Nagpur) Plateau and Eastern Ghats	Odisha, WB, Bihar, MP, Maharashtra	Hot sub-humid
	13. Eastern Plains	UP, Bihar	Hot sub-humid (moist)
	14. Western Himalayas	J&K, HP, UP	Warm sub-humid (to humid with inclusion of per humid)
Humid- per humid	15. Bengal and Assam plains	WB, Assam	Hot sub-humid (moist) to (inclusion of per humid)
	16. Eastern Himalayas	Arunachal P., Sikkim, WB	Warm per humid
	17. North-Eastern Hills (Purvanchal)	Tripura, Mizoram, Meghalaya	Warm per humid
Coastal	18. Eastern Coastal Plains	TN, AP, Puducherry, Odisha, WB	Hot sub-humid to semi-arid
	19. Western Ghats and Coastal Plains	Kerala, Goa, Daman & Diu, Maharashtra, Guj., Kerala	Hot humid per humid
Island	20. Islands of Andaman & Nicobar and Lakshadweep	Andaman and Nicobar, Lakshadweep	Hot humid per humid

Source : Agriculture Research Databook 2019, IASRI

➤ ***Agricultural Land by use in India*****(Million Hectares)**

Classification	2014-15 (P)
I. Geographical Area	328.73
II. Reporting Area for Land Utilisation Statistics (1 to 5)	307.80
1. Forest	71.79
%	(23.3)
2. Not Available for Cultivation (A+B)	43.88
(A) Area Under Non-agricultural Uses	26.88
%	(8.73)
(B) Barren & Un-culturable Land	17.00
%	(5.52)
3. Other Uncultivated land excluding Fallow Land (A+B+C)	25.83
(A) Permanent Pasture & other Grazing Land	10.26
%	(3.33)
(B) Land under Miscellaneous Tree Crops & Groves not included in Net Area Sown	3.10
%	(1.01)
(C) Culturable Waste Land	12.47
%	(4.05)
4. Fallow Lands (A+B)	26.18
(A) Fallow Lands other than Current Fallows	11.09
%	(3.6)
(B) Current Fallows	15.09
%	(4.9)
5. Net Area Sown (6-7)	140.13
%	(45.52)

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6. Total Cropped Area (Gross Cropped Area)	198.36
7. Area Sown more than once	58.23
8. Cropping Intensity*	141.55
III. Net Irrigated Area	68.38
IV. Gross Irrigated Area	96.46

Source : Agricultural Statistics at a glance 2018, GoI

➤ **India's position in World Agriculture 2016**

Item	India's Rank	Next to
1. Total Area (Million Hectares)		
Land Area	7 th	Russian Federation, Canada, USA, China, Brazil, Australia
Arable Land	1 st	Russian Federation, China, USA, Canada, Brazil, Australia
2. Population (Million)		
Total	2 nd	China
Rural	1 st	-
3. Economically Active Population (Million)		
Total	2 nd	China
Agriculture	2 nd	China
4. Crop Production (Million Tonnes)		
(A) Total Cereals	3 rd	China, USA
Wheat	2 nd	China
Rice (Paddy)	2 nd	China

(B)	Total Pulses	1 st	—
(C)	Oilseeds		
	Groundnut (in shell)	2 nd	China
	Rapeseed	3 rd	Canada, China
(D)	Commercial Crops		
	Sugarcane	2 nd	Brazil
	Tea	2 nd	China
	Coffee (green)	7 th	Brazil, Vietnam, Colombia, Indonesia, Ethiopia, Honduras
	Jute & Jute like Fibres	1 st	—
	Cotton (lint)	2 nd	China
	Tobacco Unmanufactured	2 nd	China

**5. Fruits & Vegetables
(Million Tonnes)**

(A)	Vegetables & Melons	2 nd	China
(B)	Fruits excluding Melons	2 nd	China
(C)	Potatoes	2 nd	China
(D)	Onion (Dry)	2 nd	China
(E)	Banana	1 st	

6. Livestock (Million Heads)

(A)	Cattle	2 nd	Brazil
(B)	Buffaloes	1 st	
(C)	Sheep	3 rd	China, Australia
(D)	Goats	2 nd	China
(E)	Chicken	6 th	China, USA, Indonesia, Brazil, Iran
(F)	Camels	16 th	

174 Agriculture Current Affairs 2019-20 (8th Edition)**7. Animal Products (000 MT)**

(A) Milk Total	1 st	
(B) Eggs Total	3 rd	China, USA
(C) Meat Total	6 th	China, USA, Brazil, Russian Federation, Germany

Source : Agricultural Statistics at a glance 2018, GoI

➤ **List of field crops varieties / hybrids released and notified in 2016**

Crop	Variety
------	---------

A. Cereals**Rice**

Pusa Basmati 1609, Birsa Vikas Sugandha, Pant Dhan 24, Kalachampa, KPH 460, Nua Acharmati, Hiranmayee (OE2329-44), Tanmayee (2339-8), DRR Dhan 44, DRR Dhan 43, ADV 8301 Hybrid, Pant Basmati 2, Pant Basmati 1, DRR Dhan 45, CR Dhan 3, Ajit, KRH (Karnataka Rice Hybrid 4), PR 121, PR 122, PR 123, GNR 3, CR Dhan 101 (Ankit), CR Dhan 206 (Gopinath), CR Dhan 307 (Maudamani), Pusa 1592, Chattisgarh Zinc rice 1, (CGZR-1), SHIATS Dhan 4, SHIATS Dhan 5, Chandra, DRR Dhan 46, BNKR 3 (Sampriti), Badshabhog Selection 1, Tarunbhog Selection 1, Dubraj Selection 1, PBNR 03-2, JRH 19, Vishnu Bhog Selection 1, Kumram Sannalu, Somnath, Telangana Sona, JGL 18047 (Bathukamma), Ratnagiri 5, Sahayadri 5 (Hybrid), HKR 48, Gujarat Anand Rice 3 (GAR 3), Chinsurah Nona 1, Punjab Basmati 3, GNR 4, NK 16520 Hybrid, JKRH 3333 Hybrid, Swarna Shreya, KPH 272 (Hybrid), TM 07278, KPH 467 (Hybrid), Pusa Basmati 1637, Pusa Basmati 1728, PAC 8744, BS 158 (Arize Swift), Chhattisgarh Madhuraj Dhan 55, BNKR3 (Sri Dhruthi), Bauna Kalanamak 101, JR 767, CR 1009 Sub 1, TKM 13, VL 7620, KPR 1, BPCH 6

Maize

Palam Sankar Makka 1, KMH 7148, Candy, D2244 (DAS MH 501), Shalimar Maize Composite 5, Shaminar Maize Comp 6, Shalimar Maize Comp 7, Laxmi 3636, BIO 9782 (BIO 237), Dragon (NMH 1247), PMH, Hema, Pratap Hybrid Maize 3, DKC 9126, Palam Sankar Makka 2, Uda, Pratap Makka 9, Karimnagar Makka 1, Gujarat Anand Yellow Maize Hy 1 (GAYMH-1), HTMH 5106 (Hybrid), RJ 2020, RMH 4620, Central Maize VL Sweet Corn 1, PMH7, SHIATS Makka 3, PMH 10 (Hybrid)

Wheat

UAS 347, PBW 658, Raj 4238, Central Wheat HS 562, Pusa Malwi (HD 4725) (Durum), HD 3117, GW 451, HDSCW 18, Phule Samadhan, MP 3382, MPO (JW) 1255 (Duram), DH 114 (Him Pratham), PBW 660, PBW 677, PBW 725, PDKV Sardar, VL 953, UP 2784

Pearl Millet

Proagro Tejas, PHB 2884, 86M84, Central Pearl Millet Hybrid MPMH 21, Pearl Millet CO 10, JKBH 1008, MP 535, MH 1928 Hybrid, KBH 3940, Nandi 75, 86M82, 86M13, BIO 8145 Hybrid, JKBH 1100 Hybrid, JKBH 1105 Hybrid, Phule Aadishakti

Sorghum

CSV 31 Palamuru jonna, CSH 34, CSH 35, Phule Rohini, Phule Vasundhara, (Sweet Sorghum Hybrid), Phule Madhur, GJ 42, SPH 1641 (Hybrid), Raj Vijay Jowar 1862, 28

Barley

RD 2849, VLB 94, RD 2794

Finger Millet

Arjuna, GNN 6, GN 5, VL Mandua 348

Kodo Millet

Chhattisgarh Kodo 2, Jawahar Kodo 137

Little Millet

GV 2, Phule Ekadhashi, Jawahar Kutki 4, Chhattisgarh Kutki 2

B. OIL SEED CROPS

Indian Mustard

Pant Rai 20, PBR 357, RGN 298, GM3 (Gujarat Mustard 3), PDZ 1 (Pusa double zero mustard 31), RLC 2, PBR 378, Gujarat Dantiwada Mustard 5, Raj Vijay Mustard 1, JKMS 2 (JK Samriddhi Gold), RLC 3

Toria : Sushree, TL 17

Yellow Sarson : JKYS 2 (JK Pukhraj)

Karan Rai (B. Carinata) : PC 6 (BJC 1) (African Saron)

Groundnut

G 2-52, CO 7, GJG 19 (JSP 51), Central GNut Raj Mungfali 3, Phule Warna, Phule Moma, KCG 6, GKVK 5

Sesame

DS 5, PKV-NT-11, Gujarat Junagadh Til 5 (GJT 5), LT 8 (Punjab Til No. 2)

Soybean

SL 958, MACS 1281, JS-20-69, VL Soya 77 (VLS 77), VL Bhat 201 (VLB 201)

Suflower

Sunlight, PSH 996, Phule Bhaskar, PSH 1962 (Hybrid), PSFH 1887 (Hybrid)

Castor : Kohinoor, Pragati, HCH 6

Linseed

Kota Barani Alsí 3, Kota Barani Alsí 4, PKV-NL260, Chhattisgarh Alsí 1, Divya, JLS 79, Arpita

Niger

JNS-30, IGPN-8004 (Phule Vaitarana)

C. PULSES

Chickpea

Pusa 3022, PBG 7, CSJ 515 (Aman), NBeG 119 (Nandyal Gram 119), GNG 2144 (Teej), JGK 5, BDNGK 798, Gujarat Junagadh Gram 6, JG 36, GBM 2

Mungbean

MH 318, Utkarsha Mungbean (KM 11-584), Yadadri, Sri Rama, GBM 1, IPM 410-3 (Shikha), IPM 205-7 (Virat), SML 1115, MSJ 118 (Keshwanand Mung 2), ML 2056, RMG 975 (Keshwanand Mung 1)

Urdbean

Indira Urad Pratham, LBG 787 (Tulasi), PDKV Blackgold

Pigeonpea/Redgram

Prakash, Gujarat Junagadh Pigeonpea 1 (GJP 1), Ujwala, Mannemkonda Kandi, GT 102, BRG 5

Lentil

KLB 2008-4 (Krati), KLS 09-3 (Krish), RLG 5 (Keshwanand Masoor 1), IPL 526

Fieldpea

Indira Matat 1, IPFD 11-5, IPFD 6-3, RFP 4 (Keshwanand Matar 1)

Cowpea

Pant Lobia-3, Phule Vithai (Phule CP-056040)

Horsegram

Pratap Kulthi 2, Cridavardhan, Phule Sakas

D. FIBRE CROPS

Cotton

CICR NA 1003, CCH 2623, SCS 793 (Sanjay), H 1353 (American Cotton), Phule Yamuna (RHC 0717), SVHH 139, F 2164, MR 786 (American Cotton), Sri Rama (NDLH 1938), Phule Tarang, CO 14, G Cot 20, GN Cot. 25, DHB 915, GN Cot. 22, SVPR 5 (TSH 0250), SVPR 1 Hybrid, JLA 505, F 2228, F 2383 (American Cotton), RHB 0711 (Phule Dhara) (Hybrid), RHCb 011 (Phule Rakmani), Raichur Shakthi 455

Jute

KJC 7 (Shresthaa), JRO 2407 Samapti, JRC 9057 (Ishani)

Mesta

JRKM 9-1 (Satyen), Dharwad Mesta 1

Kenaf

JBMG 4 (Bimal), Central Kenaf JBMP 2

Roselle

CRIJAF R 8 (Sampurna), CRIJAF R 5 (Central Reselle Ratna)

E. FORAGE CROPS

Forage Bajra

IGPM 5-2, Moti Bajra, Napier Bajra Hybrid PBN 346

Forage Oat

OL 10, Bundel Jai-2010-1, Shalimar Fodder Oats 3, JHO-2009-1 (Bundel Jai 2009-1), UPO-06-1 (Pant Forage Oat 3)

Fodder Sorghum

Punjab Sudax Chari 4, CSV 21F

Guinea Grass

Bundel Guinea 4, Dharwad Guinea Grass 1 (DGG 1)

Cowpea Fodder

Bundel Lobia 4, Vijaya, MFC 09-1

Ricebean

Bidhan Rice bean 3, JRBJ 05-2, Shyamalima (JCR 7-20)

Lucerne : Krishna**Forage Sewan Grass : Jaisalmeri Sewan**

F. SUGAR CROPS

Sugarcane

Karan 11 (Co 06034), CoB1n 02173 (22-94) DOIYANG, Co 0212, Gujarat Sugarcane 4, Gujarat Sugarcane 5, Gujarat Sugarcane 6, Gujarat Sugarcane 7, Gujarat Sugarcane 8, CoPb91

Source : Division of Crop Science, ICAR, New Delhi

Minimum support price/procurement price for crops (Rs/ quintal) (As on 30.10.2019)

Crop	2017-18	2018-19	2019-20
<i>Kharif</i>			
Paddy (Procurement price)			
Common	1550	1750	1815
Grade A	1590	1770	1835
Jowar (hybrid)	1700	2430	2550
Jowar (Maldandi)	1725	2450	2570
Bajra	1425	1950	2000
Maize	1425	1700	1760
Ragi	1900	2897	3150
Arhar (Tur)	5450 [^]	5675	5800
Moong	5575 [^]	6975	7050
Urad	5400 [^]	5600	5700
Cotton			
Medium Staple	4020	5150	5255
Long Staple	4320	5450	5550
Groundnut in Shell	4450 [^]	4890	5090
Sunflower Seed	4100 [*]	5388	5650
Soybean	3050 [^]	3399	3710
Sesamum	5300 [*]	6249	6485
Niger seed	4050 [*]	5877	5940

Crop	2017-18	2018-19	2019-20
<i>Rabi</i>			
Wheat	1735	1840	1925
Barley	1410	1440	1525
Gram	4400 [@]	4620	4875
Masur (Lentil)	4250*	4475	4800
Rapeseed / Mustard	4000*	4200	4425
Safflower	4100*	4945	5215
Toria	3900*	-	-
<i>Other Crops</i>			
Jute	3500	3700	3950
Sugarcane ^{\$}	255.00	275.00	275

*Including Bonus of Rs. 100 per quintal

**Including Bonus of Rs. 75 per quintal

^ Including Bonus of Rs. 200 per quintal

\$ Fair and remunerative price

@ Including Bonus of Rs. 150 per quintal.

➤ **Rural population and agricultural workers (as per 2011 census)**

Total Population	1210.9 million
Rural Population	833.7 million
No. of Agricultural workers	263.1 million
Cultivators	118.8 million
Agricultural Labourers	144.3 million
% of females in agricultural work force	37.1

Revolution	Field
1. Green revolution	Food grains
2. White revolution	Milk
3. Blue revolution	Fisheries
4. Brown revolution	Food processing / Fertilizers
5. Yellow revolution	Oil Seeds
6. Golden revolution	Horticulture
7. Round revolution	Potato
8. Rainbow revolution	Overall development of agriculture sector
9. Black revolution	Petroleum products
10. Silver revolution	Eggs Production
11. E-revolution	Use of digital technologies
12. Sweet Revolution	Honey production

Revolution	Father
1. Green revolution	N.E. Borlaug (got Nobel Prize for Peace in 1970)
2. Green revolution in India	M. S. Swaminathan
3. White revolution in India	V. Kurien

Concept	Person / Father
Golden rice	Ingo potrichus
Super rice	G. S. Khush
Hybrid rice	Yuvan Long Ping
Super wheat	S. Nagrajan
Bt - cotton in India	C. D. Mayee
Proteto (protein rich potato)	Ashish Dutta

Land utilization of Country and some states

Classification	India (mha)	Madhya Pradesh (mha)	Chhattisgarh (mha)	Rajasthan (mha)
Total geographical area	329	30.8	13.7	34.22
Net cropped area	143	15.07	4.83	17.39
Net irrigated area	68**	9.58**	1.33	7.88**
Gross irrigated area	97**	10.30**	1.52	10.17**
Cropping intensity	138 %	130 %	134 %	125 %
Total forest cover	708273 (sq km)	77414 (sq km)	55547 (sq km)	16572 (sq km)
Wasteland	63.85	5.84	-	10.56
Size of operational holding	1.41 (ha)	2.5 (ha)	-	3.96 (ha)
Per capita agriculture land	0.12 (ha)	-	-	0.38 (ha)
Average rainfall (mm)	1190	1089.3	1400	575
Total farm holdings	107 (millions)	6.64 (millions)	-	-
Rain fed area	60 %	70 %	75 %	70 %
Agro-climatic/ sub ACZ	15 (ICAR)	11 (SACZ)	3 (SACZ)	10 (SACZ)
Forest cover (%)	21.54 %*	25.11%	41.09%	4.84 %

*According to ISFR (India State Forest Report), 2017, ** - 2014-15

Area and Production of Horticulture Crops : All India

Crop / year	2017 - 18*		2018 - 19**	
	Area (in '000 ha)	Production (in '000 MT)	Area (in '000 ha)	Production (in '000 MT)
Total Fruits	6506	97358	6648	98579
Total Vegetables	10259	184394	10100	185883
Flowers	324	1962 (loose), 823 (cut) lakh tonnes	313	2059 (loose), 807 (cut) lakh tonnes
Aromatic & Medi.	720	866	656	819
Total Spices	3878	8124	3895	9216
Toal Plantation	3744	18082	3880	16368
Total	25431	311714	25492	313851
Mango	2258	21822	2293	20798
Apple	301	2327	314	2503
Banana	884	30808	898	31747
Citrus (Total)	1003	12546	1034	13200
Guava	265	4054	276	4236
Grapes	139	2920	139	2958
Litchi	92	686	95	727
Papaya	138	5989	143	5980
Pineapple	103	1706	105	1729
Pomegranate	234	2845	262	3034
Sapota	97	1176	90	1089
Ber	50	513	52	639
Total Fruits	6506	97358	6648	98579

* Final Figures; ** Third advance estimate

(Source : www.agricoop.nic.in) (13.11.2019)

Area and Production of Vegetables in India

Crop / year	2017 - 18*		2018 - 19**	
	Area (in '000 ha)	Production (in '000 MT)	Area (in '000 ha)	Production (in '000 MT)
Total Vegetables	10259	184394	10100	185883
Potato	2142	51310	2161	53027
Onion	1285	23262	1263	23485
Tomato	789	19759	778	19397
Brinjal	730	12801	728	12660
Cabbage	399	9037	399	9095
Cauliflower	453	8668	469	9103
Okra/Ladyfinger	509	6095	513	6170
Peas	540	5422	551	5533
Tapioca	173	4950	177	5484
Sweet potato	131	1500	116	1207
Bitter gourd	97	1137	99	1198
Bottle gourd	157	2683	186	3052
Carrot	97	1648	108	1865
Capsicum	24	326	34	487
Cucumber	82	1260	109	1696
Mushroom	198	487	–	173
Parwal	20	310	55	740
Radish	209	3061	202	3145
Pumpkin	78	1714	94	2030
Beans	228	2277	228	2257

* Final Figures; ** Third advance estimate
(Source : www.agricoop.nic.in) (13.11.2019)

Top three states in area and production of horticultural crops in India

Commodity	2018 - 19 (1 st Adv. estimates)							
	Top 3 states in area				Top 3 states in Production			
Fruits	Maharashtra	Andhra	Uttar Pradesh	Uttar Pradesh	Andhra Pr.	Uttar Pradesh	Maharashtra	
Vegetables	U.P.	West Bengal	M.P.	M.P.	Uttar Pradesh	West Bengal	Madhya Pradesh	
Flowers - loose	Kerala	J&K	Tamil Nadu	Tamil Nadu	Tamil Nadu	Andhra Pradesh	Karnataka	
Cut flowers	-	-	-	-	West Bengal	Chhattisgarh	Karnataka	
Aromatics & Medicinal	Rajasthan	Uttar Pradesh	Madhya Pradesh	Madhya Pradesh	Rajasthan	Tamil Nadu	Madhya Pradesh	
Spices	Rajasthan	Gujarat	Madhya Pradesh	Madhya Pradesh	Rajasthan	Madhya Pradesh	Andhra Pradesh	

Plantation crops	Kerala	Karnataka	Tamil Nadu	Kerala	Karnataka	Tamil Nadu
Honey	-	-	-	Uttar Pradesh	West Bengal	Punjab
Total Horticultural crops	Uttar Pradesh	Karnataka	Madhya Pradesh	Uttar Pradesh	West Bengal	M.P.

Agricultural Produce Market Committee (APMC)

An Agricultural Produce Market Committee (APMC) is a marketing board established by a state government in India.

APMCs operate on two principles:

1. Ensure that farmers are not exploited by intermediaries (or money lenders) who compel farmers to sell their produce at the farm gate for an extremely low price.
2. All food produce should first be brought to a market yard and then sold through auction.

Each state which operates APMC markets geographically divide the state. Markets (mandis) are established at different places within the state. Farmers are required to sell their produce via auction at the mandi in their region. Traders require a license to operate within a mandi. Wholesale and retail traders (e.g. shopping mall owners) and food processing companies cannot buy produce directly from a farmer.

However, not all states have passed the bill. Some states have passed but neither framed rules nor notified it. Thus, inter-state barriers continue.

Diseases caused by nutrient deficiency/toxicity

Symptoms / diseases	Due to deficiency of
Tea yellow	S
Blossom end rot of tomato & pepper	Ca
Cavity spots in carrot	Ca
Black head in celery	Ca
Internal browning in Brussels sprouts	Ca
Sand drown of tobacco	Mg
General starvation	N
Cracked stem of celery	B
Browning of cauliflower	B
Lucerne yellow or yellow top	B
Internal cork of apple	B
Ivy leaf of hops	B
Brown spotting of apricots	B
Die-back of raspberries	B
Stem melanosis of wheat	Cu
Die-back of apple trees (summer die back/wither tip)	Cu
Reclamation disease	Cu
Little leaf or sickle shape of groundnut	Zn
Rosette or little leaf of coconut	Zn
Mottle leaf or frenching in citrus crops	Zn
Fern leaf in potato	Zn
Strap leaf of Hibiscus	Mo
Freckling (a necrotic leaf condition) of sugarcane	Si
Symptoms/diseases	Due to toxicity of
Crinkle leaf of cotton	Mn
Bronzing in rice	Fe

Programme	Year of start	Source of funding
Grow More Food Campaign	1942 - 43	Imperial Govt.
Community Development Programme	1952	Ford Foundation
National Extension Service	2 nd Oct., 1953	Gol
Panchayati Raj	1958	Gol
High Yielding Variety Programme	1965 - 66	Gol
Drought Prone Area Programme	1970 - 71	Govt.
Training and Visit System (by Daniel Benor)	1974	World Bank
Training of Rural Youth for Self Employment (TRYSEM)	15 th Aug., 1979	Gol
Integrated Rural Development Programme (IRDP)	2 nd Oct., 1980	Gol
Jawahar Rozgar Yojana (JRY)	1989	Gol
Institute Village Linkage Programme (IVLP)	1995	Gpl
Kisan Call Centre (No. 1551 now as 1800 - 180 - 1551)	21 st Jan 2004	GOI
Agriculture Technology Management Agency (ATMA)	May 2005	GOI
National Rural Employment Guarantee Programme (NREGA now MGNREGA)	2 Feb. 2006	GOI
National Demonstration started in	1965	

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Kisan Credit Cards (KCC) Scheme	1998	
Agri Clinic and Agri-business Centres	2002	
Rashtriya Krishi Vikas Yojana (RKVY)	Aug. 2007	GoI
The Pradhan Mantri Krishi Sinchayee Yojana	2014-15	GoI
Neeranchal	2014	GoI
The National Adaptation Fund for Climate Change	2014-15	GoI
A Soil Health Card to Every Farmer	2014-15	GoI
Pradhan Mantri Yuva Yojana – Entrepreneurship Education & Training Scheme	2015-16	GoI
Pradhan Mantri Fasal Bima Yojana	2016	GoI
Projects / Mission		
AICRPs first on Maize	1957	ICAR/SAUs
Krishi Darshan	26 th Jan, 1966	GOI
Technology Mission on Oil Seeds	1986	GOI
National Agricultural Research Project (NARP)	1979	World Bank
National Agricultural Technology Project (NATP)	1998	World Bank
National Agricultural Innovation Project (NAIP)	July, 2006	World Bank
National Horticultural Mission (NHM)	2005 - 06	GOI
National Food Security Mission (NFSM)	2007 - 08	GOI

National Initiative on Climate Resilient Agriculture (NICRA)	Feb. 2011	ICAR
National Mission on Seeds	Proposed in 12 th Plan	GOI
Milk Mission	20 April 2012	IDA & GOI
National Food Security Act passed on	10 Sep. 2013	
National Digital Literacy Mission	21 August 2014	
National Livestock Mission	2014 - 15	GOI
Mission for Integrated Development of Horticulture (MIDH)	2014-15	GOI
Make in India	25 th Sept, 2014	GOI
Pradhan Mantri Jan Dhan Yojana	28 th Aug., 2014	GOI
Swachh Bharat Mission	2 October, 2014	GOI
Saansad Adarsh Gram Yojana	11 th Oct., 2014	GOI
My Village My Pride	2014	GOI
DD Kisan	26 th May, 2015	GOI
National Skill Development Mission	15 th July, 2015	GOI
e-NAM (Electronic - National Agriculture Market)	14th April, 2016	Gol
Operation Green (production of potato, tomato and onion)	1st Feb., 2018	Gol
Pradhan Mantri Kisan Samman Nidhi	24 Feb., 2019	Gol
Pradhan Mantri Kisan Maan Dhan Yojana	12 Sept 2019	Gol

	Science	Father
1.	Agricultural Chemistry	Liebig
2.	Modern Agronomy	Pietro de Crenscenzi
3.	Pedology	Dokuchaev
4.	Agroclimatology	Koppen
5.	Genetics	G. J. Mendel
6.	Modern Genetics	T. H. Morgan
7.	Plant Pathology	Anton de Bary
8.	Plant Pathology in India	E. J. Butler
9.	Safeners	O. L. Hoffman
10.	Cytology	Robert Hooke
11.	Mycology	A. M. Micheli
12.	Biology	Aristotle
13.	Botany	Theophrastus
14.	Modern botany	C. Linnaeus
15.	Zoology	Aristotle
16.	Endocrinology	Thomas Addison
17.	Bacteriology	Robert Koch
18.	Microbiology	Leeuwenhoek
19.	Immunology	Edward Jenner
20.	Medicine	Hippocrates
21.	Palaeontology	Leonard da Vinci
22.	Evolutionary ideas	Empedocles
23.	Indian Paleontology	Birbal Sahani
24.	Plant Physiology	Stephan Hales
25.	Indian Ecology	R. Mishra
26.	Taxonomy	Carolus Linnaeus
27.	Radiation Genetics	H. J. Muller
28.	Microscopy	Marcello Malpighi
29.	Mutation	Hugo De Vries
30.	Blood circulation	William Harvey

31. Blood groups Karl Landsteiner
32. Eugenics Francis Galton
33. Organic farming Albert Howard
34. Biodynamic Farming Rudolf Steiner
35. Natural farming Masanobu Fukuoka
36. Indian Ornithology Salim Ali
37. Agrometeorology LA Ramdas
in India
38. Global Positioning System Roger L. Easton
39. Remote Sensing in India P.R. Pisharoty
40. Geographical Information Roger F. Tomlinson
System (GIS)
41. Indian Phycology / Algology M. O. P. Iyengar
42. World / European H. C. Bastian
Nematology
43. American Nematology N. A. Cobb
44. Helminthology K. Rudolphi
45. Lichenology Erik Acharius
46. Limnology F. A. Forel
47. Apiculture Francois Huber
48. Modern Apiculture John Dzierzon
49. World Entomology William Kirby
50. Modern Microbiology Louis Pasteur
51. Modern Biology C. Linnaeus
52. Antibiotics Alexander Fleming
53. Virology W. M. Stanley
54. Cloning Ian Willmut
55. Pathology Rudolph Virchow
56. Genetic Engineering Paul Berg
57. DNA Finger Printing Alec Jeffery
58. Gene Therapy W. F. Andersan

Important Points

- ICAR was established on the recommendation of Royal Commission on Agriculture (1928) on 16 July, 1929
- Number of agro - climatic zones in India (Planning commission) is 15
- Number of agro - ecological zones in India (NBSS & LUP) 20
- **National Institute of Abiotic Stress Management (NIASM)** is located at **Baramati** (Maharashtra).
- **National Institute of Biotic Stress Management, Raipur** (Chhattisgarh).
- National Bamboo Mission is renamed as **National Agro-Forestry and Bamboo Mission (NABM)**
- Indian Institute of Agricultural Biotechnology (NIAB), Ranchi (Jharkhand) has been established at Ranchi, Jharkhand.
- First Agricultural Minister of Independent India Rafi Ahmed Kidwai
- First KVK in India was established in Pondichery during 1974
- Wheat variety contributed much to green revolution is HD 2329
- ICAR was reorganized in 1965 and 1972
- National Water Grid was proposed by K. L. Rao
- National Water Policy was announced in 1987
- National Agricultural Science Museum (2004) located at New Delhi
- India is the first nation in world to develop hybrid cotton variety H 4 in 1970, pearl millet hybrid HB 1 in 1965, sorghum hybrid CSH -1 in 1964, castor (GCH-3) and pigeon pea hybrid (ICPH 8 in 1991) & second to develop hybrid rice after China in 1994.
- India's first safflower hybrid was DSH-129 and first mustard hybrid was NRCHB -506

- Livestock Insurance Scheme was started during 2005 - 06 on pilot basis in 100 selected districts.
- The world's first inter-specific cotton hybrid Varalaxmi (*G. hirsutum* x *G. barbadense*) was developed by S.A.Patil at UAS, Dharwad in 1976
- Which GM crop occupies largest area in world Soybean
- Father of field plot technique is J. B. Boussingault
- Pusa Nanha is a mutant variety of Papaya
- Budha garden situated in New Delhi is an example of Japanese style of gardening.
- Biggest cultivated fruit in world Jack fruit
- Oleoresin is extracted from Chillies
- *Bacillus thuringiensis* was discovered by S. Ishiwata
- Which element is deficient in milk Iron
- Pashmina wool is obtained from Kashmiri Goat
- Dolly clone (sheep) is created by Wilmont
- The important green house gas releases from paddy field & wasteland Methane
- National Biodiversity Authority is located at Chennai
- Milk city of India is Anand
- The term 'Remote Sensing' was first introduced in 1960 by Evelyn L. Pruitt.
- One more Central Agricultural University (for Meghalaya and Nagaland) is being set up at Barapani (Meghalaya)
- One more IARI type Institute has been established at Barhi, Hazaribag (Jharkhand) on 28th June, 2015 by Sh. Narendra Modi (Prime Minister of India).
- One more IARI type Institute is being set up at IARI - Assam.

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- Two Central Agricultural University in Rajasthan and Andhra Pradesh and two Central Horticultural University in Haryana and Telangana are being set up.
- The National Institution for Transforming India (NITI) Aayog came into existence on 1 January 2015 replacing the existing Planning Commission.
- Sikkim become India's first fully Organic State on January 18, 2016.
- **FAO (Food and Agriculture Organization)** : It is an agency of the United Nations that leads international efforts to defeat hunger. Serving both developed and developing countries, FAO acts as a neutral forum where all nations meet as equals to negotiate agreements and debate policy.

India is a founder - member of FAO.

Headquarters : Palazzo FAO, Rome, Italy

- **World Food Programme (WFP)** : It was set up in 1963 jointly by United Nations and the FAO.

India is a founder-member of WFP, which is mandated to provide emergency food supply in places facing acute food insecurity due to natural calamities as well as manmade causes.

Currently, the Country Strategy Programme (CSP) 2015-18 is under operation, which focuses on reducing hunger and malnutrition among women and children in vulnerable areas.

- **Kisan Call Centre (KCC)** : It was launched in 21 Jan 2004 to provide information to the farming community through toll - free telephone lines (telephone no. **1800 180 1551**).

- **Minimum Support Prices** : The Government fixes the minimum support prices (MSP) for various agricultural commodities based on the recommendations of the Commission for Agricultural Costs and Prices (CACP) and on the views of the State Governments.

As of now, CACP recommends MSPs of 23 commodities.

- The 23 crops covered under MSP are :
- 7 cereals (paddy, wheat, maize, sorghum, pearl millet, barley and ragi),
 - 5 pulses (gram, tur, moong, urad, lentil),
 - 7 oilseeds (groundnut, rapeseed-mustard, soyabean, seasmum, sunflower, safflower, nigerseed), and
 - 4 commercial crops (copra, sugarcane, cotton and raw jute).

The Commission for Agricultural Costs & Prices (CACP since 1985, earlier named as Agricultural Prices Commission) came into existence in January 1965.

➤ **GM (Genetically modified) crops**

- Genetically modified crops (GMCs, GM crops, or biotech crops) are plants used in agriculture, the DNA of which has been modified using genetic engineering techniques.
- The aim is to introduce a new trait to the plant which does not occur naturally in the species.
- **First genetically modified crop plant** : an antibiotic-resistant tobacco plant (in 1982).
- **First field trials occurred in** : France and the USA in 1986
- **First country to allow commercialized transgenic plants**, introducing a virus-resistant tobacco in 1992 : **China**
- **First genetically modified crop approved for sale in the U.S.** : **FlavrSavr tomato** in 1994
- **Bt cotton** is a genetically modified organism (GMO) cotton variety, which produces an insecticide to bollworm. It is produced by **Monsanto**.
- Bt cotton was first approved for field trials in the United States in 1993, and first approved commercial use in the United States in 1995. Bt cotton was approved by the Chinese government in 1997.
- Only **Bt Cotton** is allowed to be commercially grown in **India** till now.
- The Bt cotton (Bollgard) was approved by the Government of

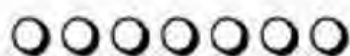
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India in 2002.

- In 2002, a joint venture between Monsanto and Mahyco introduced Bt cotton to India.
- Leading countries of genetically modified (GM) crops worldwide in 2015, based on planted acreage (in million hectares) :
 1. USA
 2. Brazil
 3. Argentina
 4. India
- India is the largest producer of cotton, and GM cotton, as of 2014.
- India has bred Bt-cotton varieties such as Bikaneri Nerma and hybrids such as NHH-44.

➤ *Journal - Agricultural Situation in India (ASI)*

- Publication Division publishes the monthly Journal titled Agricultural Situation in India (ASI).
- The Journal is brought out by the Directorate of Economics and Statistics (DES), Ministry of Agriculture & Farmers Welfare.
- It aims at presenting a factual and integrated picture of the Food and Agricultural situation in India on monthly basis. The Journal intends to provide a forum for academic work and also to promote technical capability for research in agricultural and allied subjects.



***Mandis integrated in eNAM as on date
(spread across 16 states and 2 UT's) (as on 13/11/2019)***

State	No. of APMC	Mandis doing online trade
Andhra Pradesh	22	15
Chandigarh	1	1
Chhattisgarh	14	9
Gujarat	79	15
Haryana	54	46
Himachal Pradesh	19	10
Jharkhand	19	2
Madhya Pradesh	58	33
Maharashtra	60	30
Odisha	10	4
Puducherry	2	1
Punjab	19	14
Rajasthan	25	18
Tamil Nadu	23	8
Telangana	47	31
Uttar Pradesh	100	60
Uttarakhand	16	14
West Bengal	17	15
Total	585	

Agriculture Census data for 2015-16

- On October 1, 2018, 10th Agriculture Census 2015-16 was released by the Agriculture Ministry.

Definitions

- **Operational Holding** : All land which is used wholly or partly for agricultural production and is operated as one technical unit by one person alone or with others without regard to the title, legal form, size or location.
- **Technical Unit** : A unit of land which is under the same management and has the same means of production such as labour force, machinery and animals.
- **Operated area** : Operated area includes both cultivated and uncultivated area, provided part of it is put to agricultural production during the reference period. If, for instance, an operational holding consists of four survey numbers out of which one survey number is put to non-agricultural uses, the total area of the operational holding will be equal to the total geographical area of all the four survey numbers.
- **Operational holder** : A person who has the responsibility for the operation of the agricultural holding and who exercises the technical initiative and is responsible for its operation. He may have full economic responsibility or may share it with others. The operational holder may be Individual/Joint/Institutional.
- **Size classes and Size groups of Holdings** : The data are presented

at All India level and for all States and Union Territories in the following size classes and size groups of operational holdings

S.No.	Group	S.No.	Classes (in ha.)
I.	Marginal	1.	Below 0.5 ha.
		2.	0.5 < 1.0 ha.
II.	Small	3.	1.0 < 2.0 ha.
III.	Semi - medium	4.	2.0 < 3.0 ha.
		5.	3.0 < 4.0 ha.
IV.	Medium	6.	4.0 < 5.0 ha.
		7.	5.0 < 7.5 ha.
		8.	7.5 < 10.0 ha.
V.	Large	9.	10.0 < 20.0 ha.
		10.	20.0 and above.

- The Agriculture Census in India is conducted at five yearly intervals to collect data on structural aspects of operational holdings in the country.
- The Agriculture Census programme is carried out in three phases at five yearly intervals with cooperation of States/UTs. The Government of India provides a financial and administrative support as well as all technical guidance to States/UTs required for Census operations.
- The reference period for Agriculture Census is the Agricultural year (July-June).
- The first comprehensive Agriculture Census in the country was conducted with reference year 1970-71.
- So far, nine Agriculture Censuses have been conducted in the country.
- The current Agriculture Census with reference year 2015-16 is tenth in the series.

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- During Phase-I of the Agriculture Census, data on primary characteristics like number of operational holdings and area operated by different size classes (marginal, small, semi-medium, medium and large), social groups (SC, ST, Others), gender (male/female), types of holding (individual, joint and institutional), is collected. This operation covers all villages in land record States and 20 per cent of the villages in non-land record States.
- During Phase-II of the Census, holding schedule is canvassed in selected 20 percent villages in each tehsil for collecting detailed data on characteristics of operational holdings such as land use, irrigation status, tenancy particulars, cropping pattern, etc.
- Phase – III of the Census, popularly known as Input Survey, relates to collection of data on the pattern of input use by operational holdings. This survey is conducted in 7 percent of villages selected in each tehsil of the State/UTs.
- This report on number and area of operational holdings in India is based on the provisional results of first Phase of the current Agriculture Census 2015-16.

<h3>Highlights of the Report on Number and Area of Operational Holdings, 2015-16 :</h3>
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- The total number of operational holdings in the country has increased from 138 million in 2010-11 to **146 million 2015-16** i.e. an increase of **5.33%**.
- The data for 2015-16 Agriculture Census reveals that in a total of **146 million operational holdings** in the country, the highest number of operational holders belonged to **Uttar Pradesh (23.82 million)** followed by Bihar (16.41 million), Maharashtra (14.71 million), Madhya Pradesh (10.00 million), Karnataka (8.68 million), Andhra Pradesh (8.52 million), Tamil Nadu (7.94 million), Rajasthan (7.65 million), West Bengal (7.24 million).
- As regards operated area, out of a total of 157.14 million ha, the highest operated area was contributed by **Rajasthan (20.87 million ha)**, followed by Maharashtra (19.88 million ha), Uttar

Pradesh (17.45 million ha), Madhya Pradesh (15.67 million ha), Karnataka (11.72 million ha) etc.

- At all India level, percentage increase in number of operational holdings in 2015-16 as compared to Agriculture Census 2010-11 worked out to 5.33% among states, the highest variation was found in the case of **Madhya Pradesh (12.74%)** followed by Andhra Pradesh (11.85%), Rajasthan (11.12%), Kerala (11.02%), Meghalaya (10.90%), Karnataka (10.78%) and Nagaland (10.50%) etc.
- There is a **decrease in the operated area** from 159.59 million ha. in 2010-11 to **157.14 million ha.** in 2015-16 showing an decrease of 1.53%.
- Some states also showed decline in number of operational holdings. **The sharpest fall has been in Goa (28.17%) and lowest in Manipur (0.09%).**
- As per Agriculture Census 2015-16, out of 36 States/UTs in the country, it was found that 14 States viz. Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamilnadu, Telangana, Uttar Pradesh and West Bengal account for about 91.03% in terms of number of operational holdings and about 88.08% in terms of area operated in the country.
- The **average size of operational holding** has declined to **1.08 ha.** in 2015-16 as compared to 1.15 in 2010-11.
- The individual, joint and institutional holdings have shown a growth of 5.04%, 7.07% and 10.88% respectively over previous Agriculture Census.
- The **percentage share of female operational holders** has **increased** from 12.79% in 2010-11 to **13.87% in 2015-16** with the corresponding figures of 10.36% and 11.57% in the operated area. This shows that more and more females are participating in the management and operation of agricultural lands.
- The small and marginal holdings taken together (0.00-2.00 ha) constituted 86.21% in 2015-16 against 84.97% in 2010-11 while

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their share in the operated area stood 47.34% in the current census as against 44.31% in 2010-11.

- **Semi-medium and Medium operational holdings (2.00-10.00 ha) in 2015-16 were only 13.22% with 43.61% operated area. The corresponding figures for 2010-11 census was 14.29% and 44.82%.**
- **The large holdings (10.00 ha & above) were merely 0.57% of total number of holdings in 2015-16 and had a share of 9.04% in the operated area as against 0.71% and 10.59% respectively for 2010-11 census.**
- **Percentage share of different social groups in number of operational holdings as per Agriculture Census 2015-16**

SCs	11.91%
STs	8.72%
Institutional	0.18%
Others	79.19%

- **Percentage share of different social groups in area operated by holdings as per Agriculture Census 2015-16**

SCs	8.61%
STs	11.40%
Institutional	0.97%
Others	79.03%

Source : <http://agcensus.nic.in>

Recent Schemes / Programmes launched by Govt. of India

S.N.	Scheme/Program	Details
1.	Atal Mission for Rejuvenation and Urban Transformation (AMRUT) June 25, 2015	Providing basic services (e.g. water supply, sewerage, urban transport) to households and build amenities in cities which will improve the quality of life for all, especially the poor and the disadvantaged
2.	Atal Pension Yojana (APY) 9 May, 2015	Guaranteed monthly pension for subscribers ranging from Rs. 1000-5000 p.m.
3.	Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY) 25 July, 2015	The existing Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) has been subsumed in the DDUGJY. The program aimed at providing 24x7 uninterrupted power supply to all homes in Rural India
4.	Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDUGKY) 25 Sept., 2014	Project to engage rural youth specially BPL and SC/ST segment of population, in gainful employment through skill training programmes.
5.	Digital India 1 July, 2015	Aims to ensure that government services are available to citizens electronically and people get benefited from the latest information and communication technology
6.	Pradhan Mantri Kaushal Vikas Yojana 15 July, 2015	To provide encouragement to youth for development of employable skills by providing monetary rewards by

		recognition of prior learning or by undergoing training at affiliated centres.
7.	Pradhan Mantri Suraksha Bima Yojana 9 May, 2015	Accidental Insurance with a premium of Rs. 12 per year. In case of accidental death or full disability, the payment to the nominee will be Rs. 2 lakh and in case of partial Permanent disability Rs. 1 lakh.
8.	Pradhan Mantri Jan Dhan Yojana (PMJDY) 28 August, 2014	National Mission for Financial Inclusion to ensure access to financial services, namely, Banking/ Savings & Deposit Accounts, Remittance, Credit, Insurance, Pension in an affordable manner. Account can be opened in any bank branch or Business Correspondent (Bank Mitra) outlet. PMJDY accounts are being opened with Zero balance.
9.	HRIDAY – Heritage City Development and Augmentation Yojana, 21 Jan., 2015	The scheme seeks to preserve and rejuvenate the rich cultural heritage of the country.
10.	Sukanya Samridhi Yojana (Girl Child Prosperity Scheme) 22 Jan, 2015	The scheme primarily ensures equitable share to a girl child in resources and savings of a family in which she is generally discriminated as against a male child.
11.	Smart Cities Mission 25 June, 2015	To enable better living and drive economic growth stressing on the need for people centric urban planning and development.
12.	Pradhan Mantri Awas Yojana (PMAY) 25 June, 2015	To enable better living and drive economic growth stressing on the need for people centric urban planning and

		<p>development.</p> <p>The Mission will be implemented during 2015-2022 and will provide central assistance to Urban Local Bodies (ULBs) and other implementing agencies through States/UTs for.</p> <p>Aim 'Housing For All' (HFA) scheme by Government to be achieved by the year 2022.</p>
13.	National Career Service (India) (NCS) 20 July 2015	<p>The objective of this project is to help job-seekers land up at the job they deserve.</p> <p>Under this scheme, an online job-portal named as National Career Service portal has been launched which acts as a common platform for Job-seekers, employers, skill providers, govt. departments, placement organizations and counsellors.</p>
14.	Unnat Jyoti By Affordable LED's for All (UJALA) 1 May 2015	<p>Aims to promote efficient use of energy at the residential level; enhance the awareness of consumers about the efficacy of using energy efficient appliances and aggregating demand to reduce the high initial costs thus facilitating higher uptake of LED lights by residential users.</p>
15.	Swadesh Darshan Scheme 2015	<p>Under the Swadesh Darshan scheme, thirteen thematic circuits have been identified for development, namely: North-East India Circuit, Buddhist Circuit, Himalayan Circuit, Coastal Circuit, Krishna Circuit, Desert Circuit, Tribal Circuit, Eco Circuit, Wildlife Circuit, Rural Circuit, Spiritual Circuit, Ramayana Circuit and Heritage Circuit</p>

16.	Udey Desh ka Aam Nagrik (UDAN) Oct., 2016	This scheme seeks to provide connectivity to un-served and under-served airports of the country through revival of existing air-strips and airports. It aims to increase ticketing volume from 80 million to 300 million by 2022. The scheme is rolled out in Jan 2017.
17.	Pilgrimage Rejuvenation and Spirituality Augmentation Drive (PRASAD) Jan., 2015	Twelve cities namely Amaravati (Andhra Pradesh), Gaya (Bihar), Dwaraka (Gujarat), Amritsar (Punjab), Ajmer (Rajasthan), Kanchipuram (Tamil Nadu), Vellankani (Tamil Nadu), Puri (Odisha), Varanasi (Uttar Pradesh), Mathura (Uttar Pradesh), Kedarnath (Uttarakhand) and Kamakhya (Assam) have been identified for development
18.	Pradhan Mantri MUDRA Yojana (PMMY) 8 April 2015	Financial support for growth of micro enterprises sector.
19.	Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) 9 May 2015	Provide life insurance cover to all Indian citizens
20.	Sansad Adarsh Gram Yojana (SAGY) 11 October, 2014	Under the Yojana, Members of Parliament (MPs) will be responsible for developing the socio-economic and physical infrastructure of three villages each by 2019, and a total of eight villages each by 2024.
21.	Pradhan Mantri Fasal Bima Yojana (PMFBY) Jan., 2016	Provide insurance cover to rabi and kharif crops and financial support to farmers in case of damage of crops. Under the new scheme, farmers will have to pay a uniform premium of two

		per cent for all kharif crops and 1.5 per cent for all rabi crops.
22.	Pradhan Mantri Gram Sinchai Yojana (PMGSY) 1 July, 2015	It is a national mission to improve farm productivity and ensure better utilization of the resources in the country. Tagline for PMKSY is "more crop per drop".
23.	PMBJP Pradhan Mantri Bhartiya Janaushadhi Pariyojana	To provide quality medicines at affordable prices to the masses through special kendra's known as Pradhan Mantri Bhartiya Jan Aushadhi Kendra. Pradhan Mantri Bhartiya Jan Aushadhi Kendra (PMBJK) have been set up to provide generic drugs, which are available at lesser prices but are equivalent in quality and efficacy as expensive branded drugs.
24.	Make in India 25 Sept 2014	To encourage multi-national, as well as national companies to manufacture their products in India. The major objective behind the initiative is to focus on job creation and skill enhancement in 25 sectors of the economy. The initiative also aims at high quality standards and minimising the impact on the environment.
25.	Swachh Bharat Abhiyan 2 October 2014	To clean the streets, roads and infrastructure of the country's 4,041 statutory cities and towns. The objectives of Swachh Bharat are to reduce or eliminate open defecation through construction of individual, cluster and community toilets.
26.	Soil Health Card	To help farmers to improve productivity

	<p>Scheme 17 Feb., 2015</p>	<p>from their farms by letting them know about nutrient/fertilizer requirements for their farms.</p> <p>Under the scheme, the government will issue soil cards to farmers which will carry crop-wise recommendations of nutrients and fertilisers required for the individual farms to help farmers to improve productivity through judicious use of inputs. All soil samples are to be tested in various soil testing labs across the country. Thereafter the experts will analyse the strength and weaknesses (micro-nutrients deficiency) of the soil and suggest measures to deal with it. The result and suggestion will be displayed in the cards.</p>
27.	<p>Beti Bachao, Beti Padhao Yojana 22 Jan., 2015</p>	<p>It aims to generate awareness and improve the efficiency of welfare services meant for girls. The scheme was launched with an initial corpus of Rs. 100 crore.</p> <p>The objectives of the scheme are :</p> <ol style="list-style-type: none"> 1. Preventing sex selective abortion 2. Ensuring survival and protection of a girl child 3. Ensuring education of the girl child
28.	<p>Mission Indradhanush 25 December 2014</p>	<p>It aims to immunize all children under the age of 2 years, as well as all pregnant women, against seven vaccine preventable diseases. The diseases being targeted are diphtheria, whooping cough, tetanus, poliomyelitis, tuberculosis, measles and Hepatitis B. In addition to these, vaccines for Japanese Encephalitis and Haemophilus influenzae type B are also being provided in selected states.</p>

29.	Pandit Deendayal Upadhyay Shramev Jayate Karyakram 16 Oct., 2014	<p>To consolidate information of Labour Inspection and its enforcement through a unified web portal, which will lead to transparency and accountability in inspections.</p> <p>A Unified Labour Portal, known as the Shram Suvidha portal was launched under the scheme as a platform to facilitate the implementation of a transparent system for information and database management.</p>
30.	Udaan scheme 14 Nov, 2014	<p>To promote educational opportunities among girl students and address the challenge of lower girl enrolment rates in engineering colleges.</p>
31.	Bal Swachhta Mission 14 Nov., 2014	<p>It is a part of the nationwide sanitation initiative of 'Swachh Bharat Mission' launched by the Prime Minister on 2nd October, 2014.</p> <p>To provide hygienic and clean environment, food, drinking water, toilets, schools and other surroundings to the children.</p>
32.	Smart Cities Mission 2015	<p>It is an urban renewal and retrofitting program by the Government of India with a mission to develop 100 cities (the target has been revised to 109 cities) all over the country making them citizen friendly and sustainable.</p>
33.	Startup India campaign 16 Jan., 2016	<p>Aimed at promoting bank financing for start-up ventures to boost entrepreneurship and encourage start ups with jobs creation.</p> <p>The Standup India initiative is also aimed at promoting entrepreneurship among SCs/STs, women communities.</p>

		Rural India's version of Startup India was named the Deen Dayal Upadhyay Swaniyojan Yojana.
34.	DigiLocker 1 July, 2015	To provide a secure dedicated personal electronic space for storing the documents of resident Indian citizens. It is a part of Digital India programme, Digital Locker has been designed to reduce the administrative overhead of government departments and agencies created due to paper work.
35.	Shyama Prasad Mukherji Rurban Mission 21 Feb., 2016	To create 300 rural clusters across the country and strengthen financial, job, and lifestyle facilities in rural areas. Rurban Mission is a solution for both villages and cities in the country that would promote growth of villages and its residents at the place where they are. Under the mission, the government will identify and develop 300 rural clusters with urban like facilities in the next 3 years.
36.	Sagarmala Project 31 July 2015	To transform the existing ports into modern world class ports.
37.	National Sports Talent Search Scheme (NSTSS) 20 Feb., 2015	For talent identification in the age group of 8-12 years (for admission in Class IV to Class VI) and nurturing of identified talented sportspersons.
38.	Rashtriya Gokul Mission 16 Dec., 2014	It aims to conserve and develop indigenous breeds in a focused and scientific manner. It is a focussed project under National Programme for Bovine Breeding and Dairy Development. The Rashtriya Gokul Mission will be

		implemented through the "State Implementing Agency (SIA viz Livestock Development Boards).
39.	NITI Aayog National Institution for Transforming India 1 Jan., 2015	Policy think-tank established by the government to replace the Planning Commission which followed the top-down model. The Prime Minister serves as the Ex-officio chairman. The governing council consists of all state Chief Ministers, Lieutenant Governors of union territories, and vice chairman nominated by the Prime Minister. In addition to full members, there are two part time members and four ex-officio members and a chief executive officer. The temporary members are selected from the leading universities and research institutions.
40.	Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY) 17 Sept., 2015	To provide for the welfare of areas and people affected by mining related operations, using the funds generated by District Mineral Foundations (DMFs).
41.	Namami Gange Project 10 July 2014	To integrates the efforts to clean and protect the Ganga river in a comprehensive manner.
42.	Pradhan Mantri Ujjwala Yojana 1 May, 2016	To distribute free LPG connections to the women belonging to 5 Crore BPL families across the country.
43.	Pravasi Kaushal Vikas Yojana Jan., 2017	To provide training and certify Indians who are seeking overseas employment in selected sectors in line with international standards.
44.	SAMPADA Scheme May, 2017	A food processing scheme to integrate current and new schemes aimed at reducing food wastage and doubling farmers' income.

45.	Saubhagya 25 th Sept. 2017	Pradhan Mantri Sahaj Bijli Har Ghar Yojana – ‘Saubhagya’ a new scheme was launched by the Hon’ble Prime Minister. Under Saubhagya free electricity connections to all households (both APL and poor families) in rural areas and poor families in urban areas will be provided. There are around 4 Crore un-electrified households in the country and they are targeted for providing electricity connections by December 2018. Rural Electrification Corporation (REC) has been designated as its nodal agency for the Saubhagya scheme.
46.	Ayushman Bharat (Approved by Cabinet on 21 March 2018)	It is a National Health Protection Scheme, which will cover over 10 crore poor and vulnerable families (approximately 50 crore beneficiaries) providing coverage upto 5 lakh rupees per family per year for secondary and tertiary care hospitalization. Ayushman Bharat - National Health Protection Mission will subsume the on-going centrally sponsored schemes - Rashtriya Swasthya Bima Yojana (RSBY) and the Senior Citizen Health Insurance Scheme (SCHIS).
47.	National Nutrition Mission (8 March 2018)	It has been set up with a 3 year budget of Rs.9046.17 crore commencing from 2017-18. The NNM is a comprehensive approach towards raising nutrition level in the country on a war footing.
48.	Gobar-Dhan Scheme (30 April 2018)	The scheme aims to positively impact village cleanliness and generate wealth and energy from cattle and organic

		waste. The scheme also aims at creating new rural livelihood opportunities and enhancing income for farmers and other rural people.
49.	Pradhan Mantri Jan Arogya Yojana 23 Sept., 2018	Under this scheme, over 10 crore families will be provided health assurance worth Rs. 5 lakh each, every year. It will cover beneficiaries families identified on the basis of Socio Economic Caste Survey (SECC) 2011 in 444 districts of 30 states/Union Territories.
50.	Pradhan Mantri Kisan Samman Nidhi 24 Feb., 2019	Under the scheme an income support of ₹ 6000 per year is provided to all farmer families across the country in 3 equal installments of ₹ 2000 each every 4 months.
51.	Pradhan Mantri Shram Yogi Mandhan 2019	Under the scheme, a monthly pension of ₹ 3,000 per month is provided to workers in the unorganised sector over 60 years of age. However, to benefit from the scheme, workers have to contribute ₹ 55 monthly (for age 18) and it varies according to age. Maximum contribution for a year cannot exceed ₹ 2400 (₹ 200 per month).
52.	Pradhan Mantri Kisan Maan Dhan Yojana 12 Sept 2019	It is voluntary and contributory for farmers in the entry age group of 18 to 40 years and a monthly pension of Rs. 3000/- will be provided to them on attaining the age of 60 years. The farmers will have to make a monthly contribution of Rs.55 to Rs.200, depending on their age of entry, in the Pension Fund till they reach the retirement date i.e. the age of 60 years.

MCQs

(Multiple Choice Questions)

1. The total value of all final goods and services produced within the boundary of a country during the given period of time is known as :
(a) GDP (b) GNP
(c) National income (d) NNP
2. APMC is a marketing board established by :
(a) Central govt. (b) State govt.
(c) NABARD (d) CACP
3. The headquarter of NAFED is located at :
(a) Bengaluru (b) Mumbai
(c) Chennai (d) New Delhi
4. Under Seventh Schedule of the Constitution of India, agriculture comes under
(a) Union List (b) State List
(c) Concurrent List (d) None of the above
5. Wholesale Price Index (WPI) is calculated by
(a) CSO (b) Office of Economic Adviser
(c) NSSO (d) Finance Ministry
6. National Food Security Mission was launched in 2007-08 to increase the production of rice, wheat and pulses by
(a) 10, 5, 5 mt respectively (b) 5, 5 and 2 mt respectively
(c) 10, 8 & 2 mt respt. (d) 10, 10 and 5 mt respectively
7. Which one of the following projects is related to broadband connectivity of Gram Panchayats ?
(a) e-NAM (b) Digital India
(c) India Shining (d) Bharat Net

8. Crops generally sown in October to December and harvested in February to April is known as :
 - (a) Rabi crops
 - (b) Kharif crops
 - (c) Zaid crops
 - (d) Seasonal crops
9. Headquarter of CACP is situated at
 - (a) Mumbai
 - (b) New Delhi
 - (c) Hyderabad
 - (d) Udaipur
10. Slash and burn agriculture is also known as
 - (a) Taungya cultivation
 - (b) Shifting cultivation
 - (c) Jhum cultivation
 - (d) Both (b) and (c)
11. Indira Gandhi Canal starts from Harike Barrage, a few kilometres below the confluence of
 - (a) Satluj and Ravi
 - (b) Satluj and Beas
 - (c) Ravi and Beas
 - (d) Indus and Satluj
12. The proportion of area under various crops at a particular point of time is known as
 - (a) Cropping system
 - (b) Cropping pattern
 - (c) Cropping intensity
 - (d) Monoculture
13. In order to ensure the availability of new kind of seeds, seed hubs are created with the help of
 - (a) ICAR and NABARD
 - (b) KVKs and NABARD
 - (c) APMC and ICAR
 - (d) ICAR and KVKs
14. According to Pradhan Mantri Fasal Bima Yojana, the premium percent to be paid by the farmer of the total cost of kharif season crop should be
 - (a) 2 %
 - (b) 3 %
 - (c) 4 %
 - (d) 5 %
15. The nutrient that plays a activist and catalytic role in the photosynthesis of plants is
 - (a) Iron
 - (b) Calcium
 - (c) Zinc
 - (d) Magnesium
16. In order to achieve the agriculture growth of 4%, Twelfth FYP has emphasized on raising

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- (a) Land productivity (b) Water use efficiency
- (c) Both (a) and (b) (d) Farmer's income
- 17. Which of the following is/are non-food crops ?
 - (a) Tea, Coffee (b) Oilseeds
 - (c) Cotton (d) All of these
- 18. Crop logging is a method of
 - (a) Soil fertility evaluation (b) Assessing crop damage
 - (c) Both of the above (d) Testing stability of fertilizers
- 19. Under digitabl India platform, 'Panchayat Bhawan' will now be renamed as
 - (a) Municipal Kendra (b) Bharat Nirman Kendra
 - (c) Digital Block (d) None of these
- 20. The agriculture and farm friendly index is launched by :
 - (a) ICAR (b) NITI Aayog
 - (c) NABARD (d) Ministry of Agriculture
- 21. The science of mulberry cultivation for silk production is
 - (a) Apiculture (b) Sericulture
 - (c) Moriculture (d) Arboriculture
- 22. The Agri Horticultural Society of India was founded by William Carey in Calcutta in the year
 - (a) 1810 (b) 1820
 - (c) 1910 (d) 1920
- 23. Rural Development Initiative Geo-MGNREGA is associated with
 - (a) Ministry of Rural Development
 - (b) ISRO
 - (c) National Information Center
 - (d) All of the above
- 24. Which one of the following is NOT correctly matched ?
 - (a) Blue Revolution – Fisheries
 - (b) Black Revolution – Petroleum Production
 - (c) Silver Revolution – Eggs Production
 - (d) Rainbow Revolution – Horticulture

25. Soil found in northern part of Gujarat is
(a) Alluvial soil (b) Laterite soil
(c) Black soil (d) Red soil
26. The bacteria also known as legume root nodule bacteria is :
(a) Rhizobia (b) Azotobacter
(c) Aspergillus (d) None of these
27. Select the wrong pair :
(a) World Water Day – March 22
(b) World Food Day – October 16
(c) World Milk Day – July 5
(d) UN Day – October 24
28. According to Census 2011, state having 'Least Total Literacy Rate' in India is
(a) Chhattisgarh (b) West Bengal
(c) Jharkhand (d) Bihar
29. Indian Institute of Agricultural Biotechnology is situated at :
(a) Ranchi (b) Raipur
(c) Nagpur (d) Jodhpur
30. is the practice of growing a crop from the stubbles of previous crop.
(a) Mulching (b) Ratooning
(c) Harvesting (d) Nipping
31. Decline in soil quality due to improper land use, or poor management usually for agricultural, industrial or urban purposes is known as
(a) Soil erosion (b) Soil salinity
(c) Soil toxicity (d) Soil degradation
32. The group of plants having maximum Water Use Efficiency is
(a) C3 plants (b) C4 plants
(c) CAM plants (d) None of these
33. Intended Nationally Determined Contributions (INDCs) is a term used under UNFCCC for

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- (a) National Goals of developing countries
 - (b) Contributions of developed nations in UNO
 - (c) Reduction in GHGs (d) None
34. Cocoa plants are introduced in India from
- (a) Mexico (b) China
 - (c) Portugal (d) West Indies
35. As per 20th Livestock Census, the total Livestock population is
- (a) 538.5 million (b) 535.78 million
 - (c) 349.9 million (d) 537.87 million
36. December 23 - December 29 has been celebrated every year in India as
- (a) Jai Kisan Week (b) Jai Vigyan Week
 - (c) Jai Kisan-Jai Vigyan Week (d) Environment Week
37. The agricultural practice of harvesting a monocot crop by cutting most of the above ground portion but leaving the roots and growing shoot apices intact so as to allow the plants to recover and produce a fresh crop in the next season is termed as
- (a) Mulching (b) Pegging
 - (c) Roguing (d) Ratooning
38. National Income is identically equal to
- (a) GNP at factor cost (b) NNP at factor cost
 - (c) GDP at factor cost (d) GNP at market prices
39. Which of the following surveys is/are conducted by NSSO ?
- (a) Social consumption
 - (b) Land and livestock holdings
 - (c) Employment and unemployment
 - (d) All of the above
40. Agricultural Education Day is celebrated every year to commemorate the anniversary of
- (a) Dr. B.R. Ambedkar (b) Dr. Rajendra Prasad
 - (c) Dr. Radha Krishnan (d) Pandit Jawaharlal Nehru

41. National Urban Livelihood Mission (NVLM) and National Rural Livelihood Mission has recently been converged and renamed as
- (a) National Livelihood Mission
 - (b) Pradhan Mantri Livelihood Mission
 - (c) Deendayal Antayodaya Yojana
 - (d) Rashtriya Antayodaya Yojana
42. Which of the following became the first state in India to use to automated weather stations for farmers ?
- (a) Maharashtra
 - (b) Gujarat
 - (c) Rajasthan
 - (d) Tamil Nadu
43. "Medh Par Ped" is an initiative related to
- (a) Organic Farming
 - (b) Horticulture
 - (c) Agro-forestry
 - (d) Social forestry
44. Water use efficiency is highest in the case of
- (a) Surface irrigation
 - (b) Drip irrigation
 - (c) Sprinkler irrigation
 - (d) Furrow irrigation
45. "Feed the soil not the plant" is the watch word for
- (a) Eco-farming
 - (b) Conservative Agriculture
 - (c) Sustainable Agriculture
 - (d) Precision Agriculture
46. Piezometer is used to measure
- (a) Soil moisture
 - (b) Water table
 - (c) Water potential
 - (d) Hydraulic conductivity
47. Which one of the following means filling of the land ?
- (a) Irrigating the land
 - (b) Draining the land
 - (c) Harvesting of crops
 - (d) Preparation of land for next crop
48. Which one of the following do not come under loan system for delivering of bank credit ?
- (a) Ad-hoc credit limit
 - (b) Sharing of working capital finance

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- (c) Ombudsman Scheme
- (d) Period of loan
- 49. Red Data Book is famous for
 - (a) Extinct animals
 - (b) Endangered animals and plants
 - (c) Important wildlife
 - (d) All of the above
- 50. Cereals are
 - (a) Deficient in lysine and rich in methionine
 - (b) Rich in lysine and deficient in methionine
 - (c) Rich in lysine and methionine
 - (d) Deficient in lysine and methionine
- 51. Agri-clinic Yojana (2001-02) was started by
 - (a) Ministry of Agriculture (b) NABARD
 - (c) ICAR (d) ICMR
- 52. National Commission for Farmers was established in 2004 under the chairmanship of
 - (a) Dr. Manmohan Singh (B) Dr. Ayyappan
 - (c) Dr. M.S. Swaminathan (d) Dr. A.P.J. Abdul Kalam
- 53. Human Development Index was developed by Pakistani economist Mehboob ul Haq for
 - (a) WTO (b) UNDP
 - (c) WEF (d) FAO
- 54. PRAGATI (Pro-Active Governance and Timely Implementation) is a platform aimed at addressing
 - (a) Common man's grievances
 - (b) Monitoring and reviewing implementation of programmes
 - (c) Both (a) and (b)
 - (d) Farmer's problems and grievances
- 55. National Fertilizers Limited (NFL), India's largest CPSE in fertilizer sector, comes under the administrative control of
 - (a) Ministry of Agriculture

- (b) Ministry of Commerce & Industry
 - (c) Ministry of Food Processing Industry
 - (d) Ministry of Chemicals and Fertilizers
56. The precursor of WTO was
- (a) UNO
 - (b) World Bank
 - (c) GATT
 - (d) Global Trade Association
57. Which one of the following received 2019 Golden Leaf Award ?
- (a) Rubber Board
 - (b) Tobacco Board
 - (c) Coconut Board
 - (d) Tea Board
58. Pradhan Mantri Ujjwala Yojana started in 2016 is related to
- (a) Distribute free LPG connections to rural women
 - (b) Educating the girl child
 - (c) Providing access to electricity
 - (d) None of the above
59. The ex-officio chairman of NITI Aayog is
- (a) President of India
 - (b) Prime Minister
 - (c) Finance Minister
 - (d) CAG
60. The project related with transforming the existing ports of India into modern world class ports is
- (a) Sabarmati project
 - (b) Sagarmala project
 - (c) UDAY project
 - (d) Sagarmanthan project
61. UDAAN Scheme was started in November 2014 to
- (a) Promote educational opportunities among girl students
 - (b) Address the challenge of lower girl enrolment rate in engineering colleges
 - (c) Both of the above
 - (d) Improve technical education of the country
62. Tagline for Pradhan Mantri Gram Sinchayee Yojana is
- (a) More Crop Less Water
 - (b) More Crop Per Drop
 - (c) More Produce Per Drop
 - (d) More Produce Less Water
63. Which one of the following scheme was launched in 2015 to

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- provide financial support for the growth of micro-enterprises in India ?
- (a) Make in India
 - (b) Pradhan Mantri MUDRA Yojana
 - (c) PMJDY
 - (d) Jan Kalyan Yojana
64. Under Pradhan Mantri Awas Yojana, the main aim of 'Housing for All' is scheduled to be achieved in
- (a) 2019
 - (b) 2021
 - (c) 2022
 - (d) 2025
65. Which one of the following schemes seeks to preserve and rejuvenate the rich cultural heritage of India ?
- (a) UDAN
 - (b) SAMPADA
 - (c) MUDRA
 - (d) HRIDAY
66. Krishi Vigyan Kendras (KVKs) are also known as
- (a) Agricultural Training Centres
 - (b) Research Centres
 - (c) Vocational Research Institutes
 - (d) Vocational Training
67. Panchayati Raj System in India is also known as
- (a) Democratic Decentralisation
 - (b) Municipal Governance Mechanism
 - (c) Rural Redressal System
 - (d) None of these
68. Which one of the following is also known as 'Package Programme' ?
- (a) Community Development Programme
 - (b) Intensive Agriculture Development Programme
 - (c) Lab to Land Programme
 - (d) National Extension Service
69. Which of the following insurance schemes have been under National Crop Insurance Programme ?

- (a) MNAIS (b) WBCIS
(c) CPIS (d) All of the above
70. In Nov., 2018 who has been honoured with Sayaji Ratna Award ?
(a) M.S. Swaminathan (b) Dr. (Mrs) Tara Satyavathi
(c) R. R. Hanchinal (d) Amitabh Bachchan
71. Pradhan Mantri Kisan Maan Dhan Yojana is a voluntary and contributory scheme for farmers in the entry age group of
(a) 12 to 35 years (b) 18 to 30 years
(c) 18 to 45 years (d) 18 to 40 years
72. A digital payment platform for merchants to receive digital payments from customers over the counter through Aadhar authentication is
(a) E - pay (b) E - Aadhar
(c) BHIM (d) Aadhar Pay
73. The wage someone gets in hand per day or per month minus the present day rate of inflation - adjusted in percentage form is termed as
(a) National Income (b) Per Capita Income
(c) Fixed Income (d) Real Income
74. "Seigniorage" is a type of
(a) Excise duty (b) Inflation tax
(c) Direct tax (d) Custom duty
75. The fund set up to help ventures of selected candidates under PMKVY but don't get any job is
(a) Nirmal fund (b) Nirvan fund
(c) Debt fund (d) Kaushal fund
76. In order to evoke the culture and cuisine of India, the term 'Masala Bond' was used for the first time by
(a) WTO
(b) IMC
(c) World Bank
(d) International Finance Corporation

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77. A tax-exemption bond issued by federally qualified organisation or by municipalities for the development of brownfield sites is termed as
- (a) Eco-bond
 - (b) Environment bond
 - (c) Climate bond
 - (d) Green bond
78. Expand AQR
- (a) Asset Quality Review
 - (b) Asset Quality Recall
 - (c) Agriculture Quality Ratio
 - (d) Agriculture Quality Review
79. The committee headed by Dinesh Sharma examined the
- (a) Existing framework related to virtual currencies
 - (b) Demonetisation effect
 - (c) Public distribution system of the country
 - (d) None of these
80. India's rank in Environmental Performance Index 2018
- (a) 71
 - (b) 113
 - (c) 177
 - (d) 161
81. The sector with maximum weightage under IIP index is
- (a) Steel
 - (b) Fertilizer
 - (c) Crude Oil
 - (d) Electricity
82. Buffer stock is maintained by
- (a) FCI
 - (b) NABARD
 - (c) ICAR
 - (d) AGMARK
83. Panchayati Raj System was introduced for the first time in
- (a) Madhya Pradesh
 - (b) Gujarat
 - (c) Maharashtra
 - (d) Rajasthan
84. The principle of 'One Village One Society' was suggested by
- (a) Ashok Mehta Committee
 - (b) Balwant Rai Mehta Committee
 - (c) Rangarajan Committee
 - (d) Macleod Committee

85. Livestock loan is a type of
(a) Short term loan (b) Medium term loan
(c) Long term loan (d) None of these
86. The most valid law in agricultural production is
(a) Law of equi-marginal returns
(b) Law of marginal returns
(c) Law of diminishing returns
(d) None of these
87. Mukhya Mantri Krishi Aashirwaad Yojana is launched by which state govt. ?
(a) Punjab (b) Jharkhand
(c) Rajasthan (d) Madhya Pradesh
88. Which one among the following organizations announces the GDP of India quarterly ?
(a) CSO (b) FICCI
(c) NABARD (d) Finance Ministry
89. NABARD was established on 12 July, 1982 after replacing
(a) Agricultural Credit Department
(b) Rural Planning and Credit Cell of RBI
(c) Agricultural Refinance and Development Corporation
(d) All of the above
90. 'e-Pashuhaat' portal launched by GoI is related with
(a) Availability of health facilities for animals
(b) Statistical data of Animal Husbandry and Veterinary Science
(c) Availability of bovine germplasm
(d) None of the above
91. Which one of the following initiatives has been started by Govt. to train women farmers across agro-climatic zones on new technology and know-how available in the country and outside?
(a) Lakshya Bhagirathi campaign
(b) Rashtriya Krishi Vikas Yojana

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- (c) Biotech-KISAN
(d) e-KRISHI
92. Currently, the only GM crop allowed for commercial cultivation in India is
(a) Brinjal (b) Cotton
(c) Mustard (d) Tomato
93. The state of Sikkim is also known as
(a) Paradise of Botanist (b) Organic State
(c) Land of Flowers (d) All of the above
94. It has been decided to observe of every year as Agriculture Education Day.
(a) 3 November (b) 26 November
(c) 3 December (d) 26 December
95. The mobile application launched recently for farmers which will provide information on subjects such as weather, market prices, seeds, fertilizers, pesticides and agriculture machinery is
(a) Pusa Krishi (b) Kisan Suvidha
(c) e-NAM (d) Krishi Suvidha
96. Number of Agro-climatic Zones in India (Planning Commission) is
(a) 15 (b) 16
(c) 20 (d) 21
97. A can be issued for agricultural, natural or manufactured goods that have a given quality, reputation or other characteristics attributable to its geographical origin.
(a) IPR (b) GI tag
(c) Plant Breeders Right (d) AGMARK
98. The form of Agriculture that excludes or strictly limits the use of synthetic or petro-chemical fertilizers, pesticides and various plant growth regulators is
(a) Organic Farming (b) Precision Farming
(c) Sustainable Farming (d) Ecological Farming

99. Which of the following schemes is/are replaced by Pradhan Mantri Fasal Bima Yojana approved recently by GoI ?
- (a) National Agricultural Insurance Scheme
 - (b) Modified NAIS
 - (c) Both (a) and (b)
 - (d) Crop Based Weather Insurance Scheme
100. The slogan 'Swastha Dharaa, Khet Hara (Healthy Earth Green Farm)' is associated with the scheme
- (a) Rashtriya Krishi Vikas Yojana (RKVY)
 - (b) Paramparagat Krishi Vikas Yojana (PMKVY)
 - (c) Krishonnati Yojana
 - (d) Soil Health Card Scheme
101. Pradhan Mantri Krishi Sinchayee Yojana has been formulated amalgamating ongoing schemes like
- (a) Accelerated Irrigation Benefit Programme
 - (b) Integrated Watershed Management Programme
 - (c) On Farm Water Management
 - (d) All of the above
102. Which one of the following is not a sub-scheme under the mission for integrated development of horticulture ?
- (a) National Horticulture Mission
 - (b) National Bamboo Mission
 - (c) Horticulture Mission for North East and Himalayan States
 - (d) National Mission for Sustainable Agriculture
103. Farmer FIRST (Farmer, Innovation, Resources, Science and Technology) aims at
- (a) Enriching the farmer scientist interface for technology development and application
 - (b) Integrating skill building and business modules into agricultural education
 - (c) Attracting farmers to improve capacity through special programmes
 - (d) Enabling effective and deeper diffusion of information on scientific farming in villages

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104. Which state ranks first in NITI Aayog's "Agricultural Marketing and Farmer Friendly Reforms Index" (AMFFRI) for the year 2019 ?
(a) Maharashtra (b) Rajasthan
(c) Gujarat (d) Haryana
105. 1st World Food Safety Day was observed on
(a) 10 Feb. 2019 (b) 7 October 2019
(c) 5 December 2018 (d) 7 June 2019
106. PM-KISAN would be made effective from
(a) 1 Jan 2018 (b) 1 April 2019
(c) 1 Dec 2018 (d) 1 Dec 2019
107. What is the amount of monthly pension under Pradhan Mantri Shram Yogi Mandhan Yojana
(a) 1000 (b) 2000
(c) 3000 (d) 5000
108. As per Economic Survey 2018-19, the share of Agriculture, forestry and fishing sector in GVA is in 2018-19.
(a) 14.2 % (b) 14.4 %
(c) 15.2 % (d) 15.4 %
109. IIVR has developed a special red coloured okra. It is named as:
(a) Arka Lalima (b) Arka Apeksha
(c) Kashi Vishesh (d) Kashi Lalima
110. In which state, 22nd AIIMS will be set up ?
(a) Haryana (b) Rajasthan
(c) Chhattisgarh (d) Jharkhand
111. Which one of the following ranks first in livestock population, 2019 ?
(a) Rajasthan (b) West Bengal
(c) Uttar Pradesh (d) Gujarat
112. Basic operational unit for rural development in India is
(a) Village (b) District
(c) Tehsil (d) Block

- L13. For rural development, a conducive ecology and environment is essential because
- (a) Rural life styles have close links with nature and its resources
 - (b) Rural houses are mostly unhygienic
 - (c) Rural people do not care for ecology
 - (d) None of the above
- L14. Facilitating micro-credit through SHGs among the poor is now a well accepted method of
- (a) Poverty alleviation
 - (b) Agriculture development
 - (c) Economic development
 - (d) Family development
- L15. The activities of the KVK includes
- (a) technology assessment
 - (b) refinement and transfer
 - (c) aiming to bridge the gap between the technology developed at the research institutions and its adoption at the field level by the farmers through demonstration of technology/products etc
 - (d) All of the above
- L16. The Women's Empowerment in Agriculture Index (WEAI) measures
- (a) the empowerment
 - (b) the agency
 - (c) the inclusion of women in the agriculture sector
 - (d) all of the above
- L17. Which state has bagged the Krishi Karman Award for its performance in agricultural production ?
- (a) Tamil Nadu
 - (b) Karnataka
 - (c) Andhra Pradesh
 - (d) Gujarat
- L18. Most agricultural commodity markets usually functional under the regular force of

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- (a) Demand and Supply (b) Inflation
(c) Deflation (d) Farmer produce increment
119. The important crops grown in semi-arid zones are :
(a) Millets, Ragi, Cotton, Groundnut, Castor and Linseed
(b) Jowar, Bajra, Wheat
(c) Cotton, Sugarcane
(d) Rice, Maize, Sorghum
120. In India, the Asset Reconstruction companies are regulated by
(a) NABARD (b) RBI
(c) SEBI (d) SIDBI
121. The situation when tax payers uses fiscal incentives like tax concession given by government to lower the tax burden is termed as
(a) Tax avoidance (b) Tax holiday
(c) Tax planning (d) Tax mitigation
122. An inflationary situation in an economy which results out of a process of wage and price interaction is known as
(a) Hyper-inflation (b) Inflationary gap
(c) Inflationary difference (d) Deflationary gap
123. Which one of the following becomes the first state in India to change its financial year to January – December ?
(a) Uttar Pradesh (b) Gujarat
(c) Maharashtra (d) Madhya Pradesh
124. In India, dearness allowance to employees is calculated on the basis of
(a) WPI (b) CPI
(c) Both (a) and (b) (d) IIP
125. The positive discrimination used to help the historically discriminated and marginalized groups is called
(a) Disciplinary Action (b) Curative Action
(c) Affirmative Action (d) Preventive Action
126. The Scheduled Castes and Tribes (Prevention of Atrocities) Act

was enacted in the year

- (a) 1969 (b) 1981
- (c) 1985 (d) 1989

127. Which one of the following organizations is the only national implementing entity for India by adaptation fund set up under the Kyoto protocol of the UNFCCC ?
- (a) SEBI (b) RBI
 - (c) NABARD (d) SBI
128. Which one of the following is not a major objective of National Nutrition Mission launched by Gol ?
- (a) To reduce stunting and under-nutrition
 - (b) To reduce anemia (among young children, women and adolescent girls)
 - (c) To strengthen the public distribution system
 - (d) To reduce low birth weight
129. Which one of the following states have recently became the first state to announce a scheme providing 24x7 free power supply to farmers ?
- (a) Gujarat (b) Chhattisgarh
 - (c) Rajasthan (d) Telangana
130. Projects under mega-food park are merged with comprehensive flagship scheme of
- (a) Pradhan Mantri Kisan SAMPADA Yojana
 - (b) Rashtriya Krishi Vikas Yojana
 - (c) Sansad Adarsh Gram Yojana
 - (d) Pradhan Mantri Kaushal Vikas Yojana
131. National Farmers Day or Kisan Divas is celebrated on 23 December every year in the honour of
- (a) Pandit Jawaharlal Nehru (b) Lal Bahadur Shastri
 - (c) Dr. Rajendra Prasad (d) Choudhary Charan Singh
132. FAO approves as International Year of Millets
- (a) 2020 (b) 2023
 - (c) 2024 (d) 2025

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133. In order to protect the rich aquatic biodiversity of river Ganga, a turtle sanctuary have been approved to be set up in
(a) Varanasi (b) Rishikesh
(c) Kanpur (d) Allahabad
134. Which of the following is/are the main advantages of Zero Budget Natural Farming launched by Himachal Pradesh govt. ?
(a) It lowers the cost of inputs of farmers
(b) It protects soil from degradation
(c) It helps in retaining soil fertility
(d) All of these
135. The former Agriculture Commissioner of India Late Dr. Gurcharan Singh Kalkat has been mainly associated with
(a) Green Revolution (b) White Revolution
(c) Pink Revolution (d) Evergreen Revolution
136. Who among the following scientist has recently been conferred with Yeraringan Award ?
(a) Dr. G. Khush (b) Dr. S. Ayyappan
(c) M.S. Swaminathan (d) Dr. Trilochan Mohapatra
137. NCDEX on 14 Jan 2018, unveiled India's first agri-commodity options in
(a) Jowar seed (b) Guar seed
(c) Maize (d) Sorghum
138. UN declared 2020 as
(a) International Year of Organic Farming
(b) International Year of Cereals
(c) International Year of Millets
(d) International Year of Plant Health
139. Prime Minister Narendra Modi launched the **National Animal Disease Control Programme** (NACDP) to control and eradicate the Foot & Mouth Disease (FMD) and Brucellosis amongst the livestock in the country. The main objective of the program is to eradicate the diseases by
(a) 2030 (b) 2025

- (c) 2022 (d) 2021
140. *Gleadovia konyakianorum* is the name given to a new species of parasitic flowering plant that has no
(a) ammonia (b) chlorophyll
(c) protein (d) all of the above
141. The Vice President of India, Shri M. Venkaiah Naidu has released a Compendium on breed of cattle and called for protecting and promoting the animal.
(a) Ongole (b) Kankrej
(c) Tharparkar (d) Umblachery
142. Improved Samba Masuri (ISM) is a new GI variety of
(a) Barley (b) Maize
(c) Rice (d) Wheat
143. CCEA has recently approved the continuation of Rashtriya Krishi Vikas Yojana for 3 years renaming it as
(a) Restructured - RKVY (b) RKVY - RAFTAAR
(c) Accelerated RKVY (d) RKVY - UDAN
144. The govt. has recently started a Dairy Processing and Infrastructure Development Fund with an outlay of Rs. 10881 crores during the period from
(a) 2017-18 to 2021-22 (b) 2017-18 to 2020-21
(c) 2017-18 to 2024-25 (d) 2017-18 to 2028-29
145. Which state has won Best Horticulture state award in 11th Global Agriculture Leadership Awards 2018
(a) Jharkhand (b) Nagaland
(c) Gujarat (d) Punjab
146. *Musa Paramjitiana* is a new species of wild banana discovered in
(a) A&N Islands (b) Odisha
(c) Goa (d) Lakshadweep
147. Swayam Shikshan Prayog is a Pune based NGO which has recently won UN Prize for

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- (a) Women empowerment (b) Organic Farming model
(c) Women Education (d) Sustainable Farming model
148. Krishi Pragati Awards has been presented every year by
(a) ICAR (b) NITI Aayog
(c) NCDEX (d) FAO
149. The Environment Performance Index is prepared by
(a) Yale and Colombia University alongwith WEF
(b) UNFCCC
(c) WTO
(d) FAO
150. Neem and black buck have been declared as the state tree and animal respectively of which state ?
(a) Assam (b) Andhra Pradesh
(c) Karnataka (d) Telangana
151. Which litchi variety has been given the GI tag recently ?
(a) Swarna Roopa (b) Shahi Litchi
(c) Kasba (d) Late Bedana
152. The 2019 edition of World Sustainable Development Summit, held in New Delhi was organized by
(a) The Energy and Resource Institute
(b) World Economic Forum
(c) Ministry of Science and Technology, GoI
(d) None of these
153. The 2018 UN Climate Conference (COP 24) took place in
(a) Geneva (b) Rome, Italy
(c) Katowice, Poland (d) Washington, US
154. The theme of International Day of Forests 2019 is
(a) Forests and Energy
(b) Forests, Climate Change
(c) Forests and Water
(d) Forests and Education

155. Dr. Sanjay Rajaram won the World Food Prize 2014 for his work on
- (a) Developing 480 varieties of disease resistant wheat
 - (b) Developing Miracle rice varieties
 - (c) Developing high quality protein maize
 - (d) Developing low cost techniques for fresh water fish farming
156. Telangana Sona and Sahyadree 5 are the new improved varieties of
- (a) Wheat
 - (b) Rice
 - (c) Maize
 - (d) Barley
157. As per India State of Forest Report, 2017, India ranked 10th in the world with of land area under forest and tree cover
- (a) 16.7 %
 - (b) 22.4 %
 - (c) 24.4 %
 - (d) 25.2 %
158. As per India State of Forest Report, 2017, top state/UT of India in terms of percentage of forest cover w.r.t. the total geographical area is :
- (a) Madhya Pradesh
 - (b) Mizoram
 - (c) A&N Islands
 - (d) Lakshadweep
159. West Bengal comes under the agro climatic region of
- (a) Middle Gangetic plain region
 - (b) Lower Gangetic plain region
 - (c) Upper Gangetic plain region
 - (d) Trans Gangetic plain region
160. NABARD was established by an Act of Parliament on 12 July, 1982 on the recommendation of
- (a) Ashok Mehta Committee
 - (b) B. Sivaraman Committee
 - (c) Tendulkar Committee
 - (d) Rangarajan Committee



Answers

- | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|
| 1 (a) | 2 (b) | 3 (d) | 4 (b) | 5 (b) | 6 (c) | 7 (d) |
| 8 (a) | 9 (b) | 10 (d) | 11 (b) | 12 (b) | 13 (d) | 14 (a) |
| 15 (d) | 16 (c) | 17 (d) | 18 (a) | 19 (b) | 20 (b) | 21 (c) |
| 22 (b) | 23 (d) | 24 (d) | 25 (a) | 26 (a) | 27 (c) | 28 (d) |
| 29 (a) | 30 (b) | 31 (d) | 32 (c) | 33 (a) | 34 (d) | 35 (b) |
| 36 (c) | 37 (d) | 38 (b) | 39 (d) | 40 (b) | 41 (c) | 42 (a) |
| 43 (c) | 44 (b) | 45 (a) | 46 (b) | 47 (b) | 48 (c) | 49 (b) |
| 50 (a) | 51 (b) | 52 (c) | 53 (b) | 54 (c) | 55 (d) | 56 (c) |
| 57 (b) | 58 (a) | 59 (b) | 60 (b) | 61 (c) | 62 (b) | 63 (b) |
| 64 (c) | 65 (d) | 66 (d) | 67 (d) | 68 (b) | 69 (d) | 70 (d) |
| 71 (d) | 72 (d) | 73 (d) | 74 (b) | 75 (b) | 76 (d) | 77 (d) |
| 78 (a) | 79 (a) | 80 (c) | 81 (d) | 82 (a) | 83 (d) | 84 (d) |
| 85 (b) | 86 (c) | 87 (b) | 88 (a) | 89 (d) | 90 (c) | 91 (c) |
| 92 (b) | 93 (d) | 94 (c) | 95 (b) | 96 (a) | 97 (b) | 98 (a) |
| 99 (c) | 100 (d) | 101 (d) | 102 (d) | 103 (a) | 104 (a) | 105 (d) |
| 106 (c) | 107 (c) | 108 (b) | 109 (d) | 110 (a) | 111 (c) | 112 (d) |
| 113 (a) | 114 (a) | 115 (d) | 116 (d) | 117 (a) | 118 (a) | 119 (a) |
| 120 (b) | 121 (d) | 122 (b) | 123 (d) | 124 (b) | 125 (c) | 126 (d) |
| 127 (c) | 128 (c) | 129 (d) | 130 (a) | 131 (d) | 132 (b) | 133 (d) |
| 134 (d) | 135 (a) | 136 (c) | 137 (b) | 138 (d) | 139 (a) | 140 (b) |
| 141 (a) | 142 (c) | 143 (b) | 144 (d) | 145 (b) | 146 (a) | 147 (d) |
| 148 (c) | 149 (a) | 150 (b) | 151 (b) | 152 (a) | 153 (c) | 154 (d) |
| 155 (a) | 156 (b) | 157 (c) | 158 (d) | 159 (b) | 160 (b) | |



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